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MINISTRY OF POWER

MINES AND QUARRIES ACT, 1954

The Law relating to Safety and Health

VOLUME I
MINES OF COAL
1957



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MINISTRY OF POWER

**The Law Relating to
Safety and Health**

(COAL MINES ACT, 1954)

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12. The corresponding volume under the 1911 Act contained lists of certain apparatus approved or certified by the Minister for various purposes. These lists quickly became out-of-date, and they were incomplete because, due to practical difficulties, they did not include flameproof electrical apparatus. For these reasons, and also to keep the size of this volume within reasonable bounds, it was decided to discontinue the practice. The lists will, however, be published separately.

MINISTRY OF POWER,

THAMES HOUSE SOUTH, MILLBANK, LONDON, S.W.1.

September, 1957.

PART A

EXTRACTS FROM THE MINES AND QUARRIES ACT, 1954, APPLICABLE TO MINES OF COAL

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An Act to make fresh provision with respect to the management and control of mines and quarries and for securing the safety, health and welfare of persons employed thereat; to regulate the employment thereat of women and young persons; to require the fencing of abandoned and disused mines and of quarries; and for purposes connected with the matters aforesaid.

[25th November, 1954]

BE it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

PART I

GENERAL DUTIES OF MINE . . . OWNERS

1. (1) It shall be the duty of the owner of every mine . . . to make such financial and other provision and take such other steps as may be necessary to secure—

- (a) that the mine . . . is managed and worked in accordance with the provisions in that behalf of this Act, orders made thereunder and regulations and is so planned and laid out as to enable that purpose to be readily secured; and
- (b) that all other provisions of this Act, orders made thereunder and regulations and all requirements imposed under this Act, orders made thereunder and regulations are, so far as applicable to the mine . . . duly complied with;

and, in particular, but without prejudice to the generality of the foregoing words, to give, to any person appointed by him for the purpose of securing the fulfilment, in relation to the mine . . . , of statutory responsibilities of his with respect to any matters, written instructions defining the matters with respect to which that person is charged with securing the fulfilment of those responsibilities.

(2) Forthwith after the giving by the owner of a mine . . . to a person appointed by him for the purpose aforesaid, of such instructions as aforesaid, the owner shall send a copy of the instructions to the inspector for the district and to the manager of the mine . . .

PART II

MANAGEMENT AND CONTROL

Managers and Under-managers

2. (1) Subject to the following provisions of this Act, no mine shall be worked unless there is a sole manager of the mine, being an individual duly appointed and having such qualifications (if any) as are required by or by virtue of the said provisions.

(2) The manager of a mine shall have the management and control of the mine, exercisable subject to any instructions given to him by or on behalf of the owner thereof, and shall also—

(a) have the duty of securing the discharge by all others of obligations imposed on them with respect to the mine by or by virtue of the following provisions of this Act; and

(b) have such duties with respect to the appointment of persons to carry out inspections of the mine and to be in charge of, or to supervise or conduct, operations thereat, and such other duties, and such powers, as are imposed or conferred on him by or by virtue of the following provisions of this Act.

(3) The manager of a mine shall be appointed by the owner thereof who, if an individual, may appoint himself subject, in the case of a mine whereof the manager is by or by virtue of the following provisions of this Act required to hold qualifications for his office,* to the possession by the owner of those qualifications.

3. (1) Any instructions given to the manager of a mine by or on behalf of the owner thereof, being instructions affecting the fulfilment, in relation to the mine, by the manager of statutory responsibilities of his, shall, so far as they are not written, be confirmed in writing by the person by whom they were given forthwith after the making of a request in that behalf by the manager.

(2) Except in a case of emergency, neither the owner of a mine nor a person acting on his behalf shall, except with the consent of the manager of the mine, give, otherwise than through the manager, any instructions to a person employed at the mine who is responsible to the manager; and where the owner of a mine or a person acting on his behalf gives, in either of the said excepted cases, instructions which, apart from the exception, would be required to be given through the manager of the mine, the person who gave the instructions shall, forthwith after he has given them, inform the manager of the substance thereof and, if requested so to do by the manager, confirm them in writing forthwith after the making of the request.

The foregoing provisions of this subsection shall not apply to any instructions given by an under-manager of a mine or a person appointed by the manager of a mine in pursuance of this Act or regulations.

(3) Where, in the case of a mine whereof the manager is by or by virtue of the following provisions of this Act required to hold qualifications for his office,* instructions are given by or on behalf of the owner of the mine to the manager of the mine, an under-manager thereof or a person appointed by the manager in pursuance of this Act or regulations, then, if the manager is of opinion that the execution of the instructions would or might be likely to prejudice the safety or health of the persons employed at the mine (or any of them) or to impede him in the discharge, in relation to the mine, of any duty imposed on him by or by virtue of this Act, he may—

(a) in a case where the instructions are given to him, decline to execute them until they are confirmed in writing by a person qualified for appointment as manager of the mine who is authorised in writing by the owner of the mine to confirm instructions given as aforesaid;

(b) in any other case, direct that the instructions be not executed until they are so confirmed by such a person.

*See Section 4.

The foregoing provisions of this subsection shall not apply to instructions given by an owner of a mine who is an individual or by such a person as is mentioned in paragraph (a) of this subsection.

(4) Where, in the case of such a mine as is mentioned in the last foregoing subsection, instructions are given and confirmed as therein mentioned, the document by which they are confirmed shall be preserved by the manager of the mine, and a copy of that document shall be preserved by the owner of the mine, in each case for three years after the instructions cease to be operative.

4. (1) No person shall be qualified to be appointed or to be the manager of a mine . . . at which more than thirty persons are employed below ground unless he is the holder of a first-class certificate of competency valid with respect to the mine, has attained the age of twenty-six years and satisfies such other conditions (if any) as may be prescribed.*

(2) No person shall be qualified to be appointed or to be the manager of a mine . . . at which more than fourteen but not more than thirty persons are employed below ground—

(a) except in a case falling within paragraph (b) of this subsection, unless he is the holder of a first-class or second-class certificate of competency valid with respect to the mine, has attained the age of twenty-three years and satisfies such other conditions (if any) as may be prescribed;*

(b) in a case where there is for the time being in force a direction, given by an inspector by notice served on the owner of the mine, that this paragraph shall apply to the mine, unless he is the holder of a first-class certificate of competency valid with respect to the mine, has attained the age of twenty-six years and satisfies such other conditions (if any) as may be prescribed:*

Provided that an inspector may, by notice served on the owner of any such mine as aforesaid, exempt the mine from the provisions of this subsection.

(3) In the case of a mine . . . at which not more than fourteen persons are employed below ground, an inspector may by notice served on the owner of the mine direct that this subsection shall apply to the mine and, while the direction remains in force, no person shall be qualified to be appointed or to be the manager of the mine unless he is the holder of a first-class or second-class certificate of competency valid with respect to the mine, has attained the age of twenty-three years and satisfies such other conditions (if any) as may be prescribed.*

(4) . . .

5. (1) No person shall, without the approval of an inspector, be manager of more than one mine unless—

(a) the total number of persons employed at all the mines of which he is manager does not exceed one thousand; and

(b) the surface entrances to all the shafts and outlets for the time being in use at all such mines lie within a circle whose radius is two miles.

(2) Where a person is manager of two or more mines and it appears to an inspector that by reason thereof the fulfilment, in relation to those mines or any

*No other conditions have been prescribed.

of them, by that person of statutory responsibilities of his is prejudiced, the inspector may serve on the owner of each of the mines of which the first-mentioned person is manager a notice directing that the person who is the manager of such of those mines as may be specified in the notice shall not also be the manager of the others or of such of them as may be so specified.

6. (1) For any mine there may be one or more under-managers and (subject to the following provisions of this section and to the following provisions of this Act) in the case of—

- (a) a mine which, by virtue of the foregoing provisions of this Act, cannot lawfully be worked unless the manager thereof is none other than the holder of a first-class certificate of competency,* being a mine whereof the manager is also the manager of another mine; and
- (b) a mine (other than one falling within the foregoing paragraph), being a mine with respect to which there is for the time being in force a direction, given by an inspector by notice served on the owner of the mine, that, on the ground of the size or condition of the mine or the system of working it being such as, in the opinion of the inspector, to render it inexpedient that it should be worked unless there is at least one under-manager, this paragraph shall apply to the mine;

the mine shall not be worked unless there is at least one under-manager.

(2) If an inspector is satisfied with respect to any such mine as is mentioned in paragraph (a) of the foregoing subsection that it is unnecessary to require the appointment of an under-manager for the mine, he may, by notice served on the owner of the mine, direct that so much of that subsection as prohibits the mine's being worked without there being at least one under-manager shall not have effect with respect to the mine.

(3) The jurisdiction of an under-manager of a mine may be limited to part of the mine, but a mine the working whereof is unlawful unless there is at least one under-manager shall not be worked unless every part thereof below ground is within the jurisdiction of the under-manager or (where there are two or more under-managers) some one of them.

(4) It shall be the duty of an under-manager of a mine, to the extent of his jurisdiction thereover, to supervise all operations carried on thereat and, to the best of his ability, to execute and enforce with respect to the mine the provisions of this Act, orders made thereunder and regulations.

(5) No mine . . . (being a mine which, by virtue of the foregoing provisions of this Act, cannot lawfully be worked unless the manager thereof is none other than the holder of a first-class certificate of competency)* shall be worked so long as a person is under-manager thereof who does not satisfy the following conditions, namely, that he is the holder of a first-class or second-class certificate of competency valid with respect to the mine, that he has attained the age of twenty-three years and that he satisfies such other conditions (if any) as may be prescribed;† and provision may be made by regulations‡ for requiring that no mine (other than as aforesaid) shall be worked so long as a person is under-manager thereof who does not satisfy such conditions as may be prescribed.

*See Section 4 (1) and (2) (b).

†No other conditions have been prescribed.

‡No general regulations for this purpose have yet been made.

(6) An under-manager of a mine shall be appointed by the owner thereof.

7. (1) Where, by reason of death, resignation or other cause, a vacancy occurs in the office of manager of a mine, nothing in section two of this Act shall prevent the mine being worked at any time during a period not exceeding seventy-two days (or such longer period as an inspector may allow) until the vacancy is filled, if at that time there is a person appointed by the owner of the mine to exercise the powers and perform the duties of manager of the mine during a vacancy in the office, being a person who, at that time, is or could be an under-manager of the mine without the working of the mine thereby being rendered unlawful by or by virtue of subsection (5) of the last foregoing section.

(2) Where, in the case of a mine the working whereof is unlawful unless there is at least one under-manager, a sole or last surviving under-manager dies, resigns or otherwise ceases to hold office, nothing in the last foregoing section shall prevent the mine being worked at any time during a period not exceeding seventy-two days (or such longer period as an inspector may allow) until the vacancy is filled, if at that time there is a person appointed by the owner of the mine to perform the duties of under-manager thereof in the event of a sole or last surviving under-manager ceasing to hold office, being a person who at that time either could be an under-manager of the mine without the working of the mine thereby being rendered unlawful by or by virtue of sub section (5) of the last foregoing section or has such other qualifications as may be prescribed* and has within his jurisdiction every part of the mine below ground.

(3) A person appointed by the owner of a mine as mentioned in subsection (1) or (2) of this section shall, so far as regards any period during which he acts in exercise of his appointment, be treated for the purposes of this Act, orders made thereunder and regulations in all respects as if he were the manager of the mine to which the appointment relates or, as the case may be, an under-manager thereof.

8. (1) No mine shall be worked unless daily personal supervision thereover is exercised by the manager thereof or, during any period during which he is absent on leave or is prevented from exercising such supervision by sickness or other cause beyond his control, by a person appointed by the owner of the mine to exercise such supervision during any such period, being a person who is or could be an under-manager of the mine without the working of the mine thereby being rendered unlawful by or by virtue of subsection (5) of section six of this Act:

Provided that the foregoing provisions of this subsection shall not authorise the working of a mine by virtue of the exercise of daily personal supervision by a person other than the manager thereof for any period exceeding seventy-two days (or such longer period as an inspector may allow).

(2) No such mine as is mentioned in paragraph (a) or (b) of subsection (1) of section six of this Act (not being a mine with respect to which a direction under subsection (2) of that section is in force) shall be worked unless daily personal supervision is exercised by each under-manager thereof or, during any period during which he is absent on leave or is prevented from exercising such supervision by sickness or other cause beyond his control, by a person appointed by the owner of the mine to exercise such supervision during any such period,

*No qualifications for this purpose have yet been prescribed.

being a person who either is or could be an under-manager of the mine without the working of the mine thereby being rendered unlawful by or by virtue of subsection (5) of section six of this Act or has such other qualifications as may be prescribed.*

(3) A person appointed as mentioned in subsection (1) or (2) of this section shall, so far as regards any period during which he acts in exercise of his appointment, be treated for the purposes of this Act, orders made thereunder and regulations in all respects as if he were the manager of the mine to which the appointment relates or, as the case may be, the under-manager thereof in whose place he is acting, so, however, that nothing in the foregoing provisions of this subsection shall be construed as divesting the manager or an under-manager of a mine of any power, or relieving him from any duty or liability, conferred or imposed on him by or by virtue of this Act.

9. No mine shall be worked at a time when neither the manager of the mine, nor an under-manager thereof nor a person acting in exercise of an appointment made for the purpose of any of the provisions of the two last foregoing sections is present at the mine unless the mine is in the charge of a competent person appointed by the manager and having such qualifications (if any) as may be prescribed:*

Provided that nothing in the foregoing provisions of this section shall prevent the working of a mine at a time when no persons are employed thereat below ground.

10. It shall be the duty of the manager of every mine, with respect to each report, record or other item of information which, in pursuance of this Act or regulations, is entered in a book which by or by virtue of this Act is required to be provided for that purpose by the owner of the mine, either to read it himself forthwith or to secure that it is read forthwith by some other competent person and that there is promptly brought to his notice any matter disclosed by the report, record or other item of information which either is of an abnormal or unusual nature as regards the mine or, not being of such a nature, is of a kind which will or may necessitate the taking of any steps by the manager or any other person.

Surveyors

11. (1) No mine shall be worked unless there is a surveyor for the mine appointed by the owner thereof and having such qualifications (if any) as may be prescribed:†

Provided that where by reason of death, resignation or other cause, a vacancy occurs in the office of surveyor for a mine, the foregoing provisions of this subsection shall not prevent the working of the mine for a period not exceeding twenty-eight days (or such longer period as an inspector may allow) until the vacancy is filled.

(2) The surveyor for a mine shall have such responsibilities with respect to the preparation of, and otherwise in relation to, plans and other documents

*No qualifications for this purpose have yet been prescribed.

†See the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, No. 2, Page 125.

required by virtue of the following provisions of this Act to be kept in relation to the mine, and such other responsibilities, as may be imposed on him by virtue of those provisions.*

Officials and Technicians

12. (1) Provision may be made by regulations—†

- (a) for imposing, in relation to a mine, such requirements with respect to the carrying out, by competent persons appointed for the purpose by the manager of the mine and having such qualifications (if any) as may be prescribed, of inspections of the mine as it may appear to the Minister requisite or expedient to impose for the purpose of securing the safety and health of the workmen employed thereat;
- (b) for providing that, subject to any exceptions for which provision may be made by the regulations, the persons appointed to discharge at a mine the duties imposed by virtue of the foregoing paragraph shall have the immediate charge of the workmen employed at the mine and of the operations carried on by them thereat;
- (c) for prescribing any duties to be discharged by the persons so appointed in addition to those imposed on them by virtue of the foregoing paragraphs or by or by virtue of any of the following provisions of this Act, and for requiring that, subject to any exceptions for which provision may be made by the regulations, those persons shall devote the whole of their time to the discharge of the duties prescribed by virtue of this paragraph or imposed as aforesaid; and
- (d) for requiring or authorising the delimitation in a mine of districts for the purpose of the discharge by the persons so appointed of their duties, for requiring that where, in a mine, districts are delimited for that purpose no one of those persons shall have charge of more than one district and for relating to each district the duties of the person in charge of it;

and it shall be the duty of the manager of a mine in relation to which requirements are imposed by virtue of paragraph (a) of this subsection to secure that the number of persons appointed for the purpose of fulfilling those requirements is sufficient to secure the efficient discharge of the duties imposed on those persons.

(2) Regulations having effect by virtue of the foregoing subsection shall be so framed as, in the opinion of the Minister, to secure that, in the discharge, by persons appointed for the purpose of fulfilling, in relation to a mine, requirements imposed by virtue of paragraph (a) of that subsection, of duties prescribed by virtue of the other provisions of that subsection, those persons shall give preference to the securing of the safety and health of the workmen employed at the mine over the securing of any other matter.

*See Section 17 and the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, No. 2, page 125.

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Managers and Officials) Regulations, 1956, Nos. 9 to 27 (page 109) apply.

13. (1) It shall be the duty of the manager of every mine to appoint (in addition to any persons appointed by him in pursuance of, or of regulations having effect by virtue of, any provision of this Act other than this subsection) such number of officials, engineers and technicians and other competent persons (if any) as is sufficient (taking into account activities in that behalf which are undertaken in person by the manager of the mine, by any under-manager thereof and by any persons appointed as aforesaid) to secure—

- (a) the adequate inspection of the mine and the equipment thereof;
- (b) the thorough supervision of all operations at the mine; and
- (c) the carrying on of the undertaking of the mine in conformity with the provisions of this Act, orders made thereunder and regulations.

(2) Regulations may require the manager of a mine to appoint, for the purpose of supervising, inspecting or conducting at, or in relation to, the mine, such operations or matters as may be prescribed, such officials, engineers or technicians or other competent persons as may be prescribed, and regulations made by virtue of this subsection may prescribe the qualifications to be held and the duties to be discharged by the persons thereby required to be appointed.

14. It shall be the duty of the manager of every mine to ensure to the best of his ability that every person appointed by him in pursuance of the foregoing provisions of this Act or regulations having effect by virtue of any of those provisions understands the nature and scope of any duties which fall to be performed by that person, being either duties imposed by or by virtue of this Act or duties whose performance is undertaken for the purpose of attaining any of the objects mentioned in paragraphs (a) to (c) of subsection (1) of the last foregoing section.

Provisions ancillary to foregoing Sections

15. Forthwith after the appointment by the owner of a mine of a person to be the manager or an under-manager of the mine, to exercise the powers and perform the duties of manager of the mine during a vacancy in the office, to perform the duties of under-manager of the mine in the event of a sole or last surviving under-manager ceasing to hold office, to exercise daily personal supervision during a period during which the manager or an under-manager is absent or unable to exercise such supervision, or to be the surveyor for the mine, the owner shall give to the inspector for the district notice, in such form* as may be specified by the Minister, of the making of the appointment and of the name and address of the person appointed and giving such particulars with respect to his qualifications as may be so specified.

16. (1) Where a mine or any part thereof is worked, or any operations in a mine are carried on, by a contractor, and a person is by or by virtue of the foregoing provisions of this Act required to hold qualifications for appointment to any office in the mine mentioned in subsection (2) of this section, neither the contractor nor a person employed by him shall be capable of being appointed to that office notwithstanding that, apart from this section, he is qualified for appointment thereto.

(2) The offices referred to in the foregoing subsection are those of manager of the mine* under-manager thereof† and the office to which duties imposed by virtue of subsection (1) of section twelve of this Act are attached.

Plans

17. (1) Provision may be made by regulations‡ for requiring that, in the case of every mine, the manager thereof shall keep at the office at the mine or at such other place as may be approved by an inspector—

(a) accurate plans of—

(i) all the workings in the mine (whether abandoned or not) or such of them as may be prescribed; and

(ii) all other workings (whether abandoned or not) within the boundaries of the mine or within the prescribed distance outside any boundary of the mine (measured from any point on the boundary in a straight line on any plane) or such of those workings as may be prescribed;

(b) accurate sections of the seams or veins for the time being worked in the mine and of all the strata overlying them;

being plans or, as the case may be, sections complying with such requirement as are imposed by or by virtue of the next following subsection; and regulations‡ made by virtue of this subsection may require the keeping of separate plans for different seams or veins for the purpose of showing the system of ventilation in the workings or any other prescribed matter and require that plans be so kept as at any time to disclose the extent of workings delineated thereon both up to a day not earlier than such previous day as may be prescribed and up to a distance from their position at that time not greater than such as may be prescribed.

(2) Plans and sections required to be kept by virtue of the foregoing subsection shall be of durable material and be prepared in such form and manner as may be specified by rules§ made by the Minister and on a scale not less than such as may be so specified, and any such plans (other than any whereof the main purpose is to show matters other than the extent of workings) shall show the position, in relation to objects on the surface, of the workings delineated on the plans and record such information as may be so specified with respect to orientation, contours, boundaries, faults, workings other than those delineated on the plans and any such other matters (whether similar to the matters aforesaid or not) as may be so specified.

(3) If, in the case of any mine, it appears to an inspector that any information which, by virtue of the foregoing provisions of this section, is required to be recorded on a plan required to be kept by the manager of the mine cannot be recorded thereon fully and clearly, he may serve on the manager of the mine a notice requiring him to keep at the office at the mine or at such other place as

*See Section 4.

†See Section 6 (5).

‡No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, Nos. 5 to 9 (page 126) apply.

§See the Coal and Other Mines (Working Plans) Rules, 1956, page 128.

may be approved by an inspector such supplementary plan or drawing specified in the notice as appears to the inspector by whom the notice is served to be requisite for the purpose of recording that information fully and clearly.

(4) Regulations* may provide—

- (a) for requiring that plans, sections and drawings which by virtue of this section are required to be kept in the case of a mine, or any prescribed class thereof, shall be prepared by, or under the supervision of, the surveyor for the mine;
- (b) for requiring, with respect to any such plan, section or drawing as aforesaid which has not been prepared by the surveyor for the mine, that the surveyor or such other person as may be prescribed shall take the prescribed steps for ensuring the accuracy thereof;
- (c) for imposing upon the surveyor for a mine such duties as may be prescribed with respect to—
 - (i) the preservation and production of any prescribed documents, being documents prepared for the purpose of, or in connection with, the preparation or checking of any of the plans, sections and drawings which by virtue of this section are required to be kept in the case of the mine; and
 - (ii) the recording of the identity of the person who prepared any such document.

18. (1) It shall be the duty both of the owner and of the manager of every mine, whether requested so to do or not, to furnish to the surveyor for the mine all such plans, sections, drawings and other documents and information in the possession or under the control of the owner or manager as may be requisite for the purpose of the preparation of any plan, section or drawing which, by virtue of the last foregoing section, is required to be kept in the case of that mine and to accord to the surveyor all such facilities as may be requisite for that purpose; and, in particular, but without prejudice to the generality of the foregoing provisions of this subsection, it shall be the duty of the manager of every mine, forthwith after it is determined to cease to maintain a working therein in an accessible condition, to give to the surveyor for the mine notice of that fact, specifying the working in question.

(2) Each of the following persons, namely, the owner of a mine and the manager thereof, shall, if requested so to do by the owner of another mine, furnish to the owner of that other mine or the surveyor therefor any information in the possession of the person to whom the request is made, and permit the owner of that other mine or the surveyor therefor to inspect and take copies of, or extracts from, any plans, sections, drawings or other documents in the possession or under the control of the said person, being information or, as the case may be, documents requisite for the purpose of the preparation of any plan, section or drawing which, by virtue of the last foregoing section, is required to be kept in the case of that other mine.

*No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, Nos. 3 to 9 (page 125) apply.

19. (1) If, in the case of any mine, the Minister is satisfied, upon a representation made to him by an inspector, that a plan, section or drawing which by virtue of the foregoing provisions of this Act is kept by the manager of that mine is inaccurate, incomplete, dilapidated or wholly or partly indecipherable and that, in the interests of safety, it is desirable for a new plan, section or drawing to be made, he may appoint a surveyor to make a new plan, section or drawing.

(2) The following provisions shall have effect where a surveyor is appointed under the foregoing subsection to make a new plan, section or drawing in the case of a mine :

- (a) the owner and the manager of the mine shall afford to the surveyor all necessary facilities and information for the purpose of making the new plan, section or drawing;
- (b) on the completion of the new plan, section or drawing, it shall be sent to the manager of the mine; and
- (c) the cost of making the new plan, section or drawing, or such part of that cost as the Minister thinks fit, shall be recoverable by him from the owner of the mine.

20. (1) Provision may be made by regulations—*

(a) for requiring that—

(i) in the event of the abandonment of a mine or of the expiration of the period of twelve months from the time at which a mine was last worked for the purpose of getting minerals or products of minerals, the person who is the owner of the mine at the time of the happening of that event shall, within the prescribed period thereafter, send to the inspector for the district such plans of the workings in the mine at that time (being plans complying with such requirements as are imposed by or by virtue of the next following subsection), and such drawings supplementary to the plans, as may be prescribed and such sections of the seams or veins worked in the mine and of the strata overlying them (being sections complying with such requirements as aforesaid) as may be prescribed;

(ii) in the event of the abandonment of a seam or vein in a mine or the expiration of the period of twelve months from the time at which a seam or vein in a mine was last worked for the purpose of getting minerals or products of minerals, the person who is the owner of the mine at the time of the happening of that event shall, within the prescribed period thereafter, send to the inspector for the district such plans of the workings in that seam or vein at that time (being plans complying with such requirements as are imposed by or by virtue of the next following subsection), and such drawings supplementary to the plans, as may be prescribed and such sections of that seam or vein and of the strata overlying it (being sections complying with such requirements as aforesaid) as may be prescribed;

*No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, Nos. 12 to 14 (page 127) apply.

(b) for imposing, with respect to plans, drawings and sections sent to an inspector in pursuance of such provisions of the regulations as have effect by virtue of the foregoing paragraph, such requirements (whether with respect to the persons by whom they are to be prepared, the giving of certificates with respect thereto or otherwise) as it may appear to the Minister requisite or expedient to impose for the purpose of ensuring the accuracy thereof.

(2) Plans and sections required, by virtue of provisions of regulations having effect by virtue of the foregoing subsection, to be sent to an inspector shall be of durable material and be prepared in such form and manner as may be specified by rules* made by the Minister and on a scale not less than such as may be so specified, and any such plans shall show the position, in relation to objects on the surface, of the workings delineated on the plans and record such information as may be so specified with respect to orientation, contours, boundaries, faults, workings other than those delineated on the plans and any such other matters (whether similar to the matters aforesaid or not) as may be so specified.

(3) If the Minister is satisfied, on the representation of an inspector—

(a) that there has occurred, in the case of a mine, a contravention of provisions of regulations having effect by virtue of sub-paragraph (i) or (ii) of paragraph (a) of subsection (1) of this section consisting of a failure to send a plan, drawing or section to an inspector within the period limited by those provisions or that, in the case of a mine, a plan, drawing or section sent to an inspector in pursuance of those provisions is inaccurate, incomplete, dilapidated or wholly or partly indecipherable; and

(b) that, in the interests of safety, it is desirable for a new plan, drawing or section to be made;

the Minister may, within six months from the expiration of that period, appoint a surveyor to make a new plan, drawing, or section, and the cost of making the new plan, drawing or section, or such part of that cost as the Minister thinks fit, shall be recoverable by him from the person who was the owner of the mine at the time of the happening of the event in consequence of the happening of which the said provisions fell to be complied with.

(4) Subject to the provisions of the next following subsection, plans, drawings and sections sent to an inspector in pursuance of the said provisions or made by a surveyor appointed under the last foregoing subsection shall be preserved† by the Minister or by some other person under arrangements made or approved by the Minister.

(5) Where, at the time at which the working of a mine or a seam or vein therein is resumed, any plans, drawings or sections relating thereto are, by virtue of the last foregoing subsection, preserved by the Minister or by some other person (not being the owner of the mine), the owner shall, on giving not less than fourteen days notice to the person by whom the plans, drawings or sections

*See the Coal and Other Mines (Abandonment Plans) Rules, 1956, page 131.

†Any person wishing to consult plans of coal mines in a particular area should apply to the office of the Divisional Coal Board in which that area is situated. Application should be made to the Ministry of Power, Thames House South, Millbank, London, S.W.1., regarding plans of any other mines or in any case of doubt.

are preserved and (where that person is not the Minister) to the Minister, be entitled to have delivered to him the plans, drawings or sections subject to affording to the Minister, if required so to do before the expiration of the notice, a reasonable opportunity of making copies of the plans, drawings or sections or of such part thereof as the Minister thinks fit.

21. Regulations* may require the manager of every mine to keep at the office at the mine or at such other place as may be approved by an inspector a geological map of the district in which the mine is situate, being a map conforming to such requirements (if any) as may be prescribed.

PART III

SAFETY, HEALTH AND WELFARE

Provisions for securing safe Ingress and Egress

22. (1) Subject to the provisions of this section, it shall not be lawful for any persons to be employed below ground in a mine . . . unless there are available, for affording to them alternative, and ready, means of ingress and egress, two shafts or outlets (whether belonging exclusively to that mine or not) which, except where they were sunk before the first day of January, eighteen hundred and sixty-five, are at no point separated from each other by less than forty-five feet or (where the sinking thereof began before the first day of January, eighteen hundred and eighty-eight) ten feet.

(2) Where the employment of persons in an area consisting of the whole or any part of a mine below ground would, apart from the following provisions of this subsection be, by virtue of the foregoing subsection, unlawful in consequence of a shaft or outlet having, as a result of an accident or breakdown, become unavailable for affording to persons employed in that area ready means of ingress and egress, but the manager of the mine is satisfied with respect to that area or any part thereof that persons employed in that area or, as the case may be, that part thereof will not for the time being be exposed to undue risk by reason of that shaft or outlet being unavailable as aforesaid, then if he—

- (a) posts in a conspicuous position at the mine a notice specifying the accident or breakdown and the said area and stating that he is satisfied as aforesaid with respect to that area or, as the case may be, that part thereof and the reason why he is so satisfied; and
- (b) sends, by the quickest means available, to the inspector for the district and the person, if any, for the time being nominated under the provisions of this Act relating to the notification of accidents to receive on behalf of the persons employed at the mine notices under the said provisions,† a message to the like effect as the notice mentioned in the foregoing paragraph;

there shall be excepted from the operation of the foregoing subsection—

- (i) the employment in that area or, as the case may be, that part thereof, until the end of his period of work, of any person who was below ground in the mine at the time of the accident or breakdown;

*See the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, No. 10, page 127.

†See Section 116 (1).

(ii) the employment in that area or, as the case may be, that part thereof, until the expiration of the period of twenty-four hours beginning with the time at which the accident or breakdown occurred, of any person in work necessary for securing the safety of the mine or the welfare of animals employed therein or rendering that shaft or outlet again available for the purpose for which it was available immediately before the accident or breakdown:

Provided that nothing in paragraph (i) or (ii) of this subsection shall authorise the employment of any person at any time after the receipt by the manager of the mine of notification from an inspector that, in his opinion, that person should be withdrawn from the area or part of the area in question.

(3) The Minister or an inspector, upon an application in that behalf made to him with respect to a mine, may, by notice served on the manager of the mine, exempt from the operation of subsection (1) of this section the employment of persons below ground in the mine or in such part of the mine below ground as may be specified in the notice:

Provided that no exemption shall be granted under this subsection by the Minister or an inspector unless the Minister or the inspector, as the case may be, is satisfied that no persons employed in the mine will be exposed to undue risk in consequence of the granting of the exemption.

(4) Regulations made with respect to a particular mine* . . . may provide that the employment below ground in the mine, in accordance with such conditions as may be prescribed, of such number of persons (not exceeding thirty) as may be prescribed, being persons to whom only one shaft or outlet is available for affording to them means of ingress and egress shall be excepted from the operation of subsection (1) of this section.

(5) In any claim against the owner or manager of a mine for damages, being a claim arising out of an accident caused by a decision of the manager made for the purposes of subsection (2) of this section, the defendant shall, unless he proves that the manager was not negligent in making that decision, be liable in all respects as if the plaintiff had proved that the manager was negligent in making that decision.

(6) For the purposes of this section a shaft or unwalkable outlet at a mine provided with apparatus for carrying persons through the shaft or outlet shall be deemed not to be available to a person employed below ground in the mine for affording to him means of ingress and egress if that apparatus is not available for use by him.

(7) In the application of this section to Scotland, for references to a plaintiff and a defendant there shall respectively be substituted references to a pursuer and a defender.

(8) Nothing in this section shall apply to the employment of persons in a shaft or outlet or in the insets† of a shaft or outlet.

23. (1) So long as, in a mine . . . more than one shaft or outlet is available to any persons employed below ground in the mine for affording to them means of ingress and egress, there shall be provided and maintained between—

*i.e., Special Regulations (see Section 141 (5)).

†As defined in Section 182 (1).

(a) each entrance to each shaft or outlet that is available to those persons for that purpose, being an entrance whereby those persons gain access to the shaft or outlet from the workings; and

(b) some point or points on another shaft or outlet so available;

a communication following a reasonably short and reasonably convenient route.

(2) The height of every communication provided in pursuance of the foregoing subsection shall be maintained throughout at not less than five feet and the width of every such communication shall be maintained throughout at not less than four feet:

Provided that—

(a) if the Minister is satisfied that, owing to special circumstances affecting mines . . . of any class, it is inadvisable for reasons of safety or unnecessary, in the case of the communications provided as aforesaid therein or any class of those communications, for the minimum height or width, or height and width, thereof to be as great as provided by the foregoing provisions of this subsection, regulations* may provide that those provisions shall have effect, in their application to those communications or that class thereof, with the substitution, for the minimum specified in the said provisions in relation to height, that so specified in relation to width or both of those minima, as the case may be, of such less minimum or minima as may be prescribed; and

(b) if an inspector is satisfied that, owing to special circumstances affecting a particular mine . . . it is inadvisable for reasons of safety or unnecessary, in the case of all or any of the communications provided as aforesaid therein, for the minimum height or width, or height and width, thereof to be as great as provided by the foregoing provisions of this subsection, he may, by notice served on the manager of the mine, direct that those provisions shall have effect in their application to those communications or to such of them as may be specified in the notice, with the substitution, for the minimum specified in the said provisions in relation to height, that so specified in relation to width or both of those minima, as the case may be, of such less minimum or minima as may be specified in the notice.

24. (1) Subject to the provisions of this section, it shall not be lawful for more than nine persons to be employed at any time below ground in a mine . . . in a place from which there are not two ways each of which—

(a) leads to a different shaft or outlet, being a shaft or outlet provided for affording to persons employed at that place means of ingress and egress;

(b) is entirely separate from the other;

(c) is traversable with safety and reasonable convenience;

(d) at each junction thereof with another way has clearly marked on it the shaft or outlet to which it leads; and

(e) if it is so prescribed† is of a height or width, or height and width, no less than such as may be prescribed;

*No general regulations for this purpose have yet been made.

†No minimum height or width for this purpose has yet been prescribed.

or for more than nine persons in the aggregate to be so employed in two or more such places from none of which can egress to the surface be had otherwise than by traversing a common junction.

(2) As respects a particular mine . . . provision may be made by regulations* or by a notice served by the Minister or an inspector on the manager of the mine—

- (a) for exempting the mine or any specified place therein from all or any of the requirements of the foregoing subsection;
- (b) for directing that the foregoing subsection shall, in its application to the mine or to any specified place therein, have effect with the substitution, for references to nine persons, of references to such greater number of persons (not exceeding thirty) as may be specified in the regulations or notice:

Provided that no such provision as aforesaid shall be made with respect to a mine by the Minister or an inspector unless the Minister or the inspector, as the case may be, is satisfied that no persons employed in the mine will be exposed to undue risk or inconvenience in consequence of the making of such provision.

(3) Nothing in this section shall apply to the employment of persons in a shaft or outlet.

25. (1) It shall not be lawful for a number of persons greater than the permitted number to be employed at any time at a mine . . . in a shaft or outlet.

Provided that, in relation to an outlet (not being an unwalkable outlet), this subsection shall not apply to any part thereof lying between the surface entrance thereto and any point therein from which a communication leads to another outlet or to a shaft, being an outlet or shaft available to persons employed in the said part for affording to them means of ingress and egress.

(2) For the purposes of this section—

- (a) the permitted number, in relation to a shaft or outlet, shall be twenty or such greater number (not exceeding thirty) as may be determined by an inspector by notice served on the manager of the mine;
- (b) the insets† of a shaft or outlet shall be deemed to form part of the shaft or outlet; and
- (c) subsection (6) of section twenty-two of this Act shall apply as it applies for the purposes of that section.

(3) Nothing in this section shall be construed as prejudicing the operation of the last foregoing section in relation to the employment of persons in individual insets of a shaft or outlet.

26. . . .

27. (1) If an inspector is of opinion, with respect to a working face of a mine . . . , that in the interests of safety it is necessary or expedient to provide thereat a greater number of ways out therefrom, he may serve on the manager of the mine a notice specifying that face and stating that he is of opinion as aforesaid with respect thereto and directing that, after the expiration of such period

*i.e., Special Regulations (see Section 141 (5)).

†As defined in Section 182 (1).

beginning with the day on which the notice becomes operative as may be specified herein, the face shall not be worked unless there are provided thereat such additional roads affording means of egress therefrom as may be specified in the notice, being roads leading to such places as may be so specified.

(2) The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under the foregoing subsection.

28. (1) Every shaft and unwalkable outlet for the time being provided at a mine . . . for affording to persons employed below ground therein means of ingress and egress shall be provided with apparatus for carrying persons between the top of the shaft and the entrances therefrom to the workings and between those entrances themselves or, as the case may be, for carrying persons between the surface entrance to the outlet and the entrances therefrom to the workings and between those entrances themselves, being apparatus which complies with such requirements (if any) of regulations* as it appears to the Minister requisite or expedient to impose for securing the safety of persons when being carried by means thereof and whose use is confined to the shaft or outlet, save where an inspector in any particular case, by notice served on the manager of the mine, consents to its use not being so confined.

(2) . . .

(3) All apparatus provided in pursuance of this section shall be properly maintained and, when not in use, kept constantly available for use.

29. Regulations† may impose upon owners of mines such requirements with respect to the provision and maintenance of the prescribed machinery, apparatus and parts of machinery or apparatus for the purpose of their being available for use in the event of apparatus provided at mines for carrying persons employed thereat through shafts or outlets thereat failing to function as it may appear to the Minister requisite or expedient to impose for the purpose of securing the safety of such persons.

Safety Precautions in connection with Shafts, &c., and Entrances to disused Workings

30. (1) Every mine shaft and staple-pit shall, save in so far as the natural conditions of the strata through which it passes render it unnecessary (either as to the whole or as to any part thereof) so to make it, be made secure, and shall be kept secure :

Provided that in any prosecution for a contravention of this subsection with respect to a shaft or staple-pit, it shall be a defence to prove that at the time of the alleged contravention no insecure part of that shaft or staple-pit was in use or was the site of any operations in progress by way of driving or extending the shaft or staple-pit.

(2) Subsection (1) of this section shall apply to unwalkable outlets at a mine as it applies to mine shafts.

*No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956, Nos. 2 to 15 (page 134) apply.

†No general regulations for this purpose have yet been made.

31. (1) The surface entrance to every mine shaft and every other entrance thereto (whether above or below ground), and every entrance to every staple-pit, shall be provided with an efficient enclosure or barrier so designed and constructed as to prevent any person from accidentally falling down the shaft or staple-pit or accidentally coming into contact with a moving part of any winding apparatus with which the shaft or staple-pit is provided.

(2) Every enclosure or barrier provided in pursuance of the foregoing subsection shall be properly maintained and, where an enclosure or barrier so provided or any part thereof is removable or openable, the enclosure, barrier or part shall be kept securely in position or, as the case may be, securely closed save in so far as its removal or opening is necessary for the purpose of the use of the shaft or staple-pit in connection with which it is provided, the doing of work in the shaft or staple-pit or the inspection of, or of anything in, the shaft or staple-pit.

(3) Provision may be made by regulations* for requiring such steps as may be prescribed to be taken for the purpose of preventing persons from accidentally entering outlets at mines or from accidentally coming into contact with moving parts of any apparatus therein.

(4) For the purposes of this section so much of any super-structure provided at the top of a shaft as forms an extension thereof shall be deemed to form part of the shaft.

(5) This section shall not apply to a shaft or outlet of, or staple-pit in, an abandoned mine or a mine which has not been worked for a period of twelve months, but, save as aforesaid, shall apply as well to shafts, outlets and staple-pits which are not in use as to shafts, outlets and staple-pits which are in use.

32. (1) Provision may be made by regulations* for requiring such steps as may be prescribed to be taken at mines for the purpose of preventing persons from being injured by the accidental fall of articles down shafts or staple-pits thereat.

(2) Subsection (4) of the last foregoing section shall apply for the purposes of this section as it applies for the purposes of that section.

33. (1) Every entrance from a road in a mine to a part of the mine which for the time being is not maintained in a state fit for persons to work in or pass through shall be provided with an efficient enclosure or barrier so designed and constructed as to prevent any person from accidentally entering that part of the mine.

(2) Every enclosure or barrier provided in a mine in pursuance of the foregoing subsection shall be properly maintained and, where an enclosure or barrier so provided or any part thereof is removable or openable, the enclosure, barrier or part shall be kept securely in position or, as the case may be, securely closed save in so far as its removal or opening is authorised by the manager of the mine, an under-manager thereof or the person for the time being in charge of the part of the mine in which it is provided.

Roads

34. (1) It shall be the duty of the manager of every mine to take, with respect to every length of road therein, being a length in which vehicles or conveyors

*No general regulations for this purpose have yet been made.

run or which is used at the beginning or end of a shift by not less than ten persons for the purpose of walking to or from their working places in the mine, such steps as may be necessary to secure that the following provisions are complied with, namely—

- (a) every such length of road made after the commencement of this Act shall be so made and maintained as to avoid sudden changes of direction, height, width and gradient save in so far as either—
 - (i) the system of working the mine or the natural conditions of the strata therein render it inadvisable for reasons of safety to do so; or
 - (ii) it is unnecessary to do so;
- (b) every such length of road (whether made before or after the commencement of this Act) shall be kept free from obstructions and the floor thereof shall be kept in good repair and in such a condition that any persons or animals who use that length of road can tread it with safety and reasonable convenience.

(2) If, with respect to any such length of road as aforesaid in a mine (being a length made before the commencement of this Act) an inspector is of opinion that any sudden change therein of direction, height, width or gradient ought to be eliminated, he may serve on the manager of the mine a notice specifying that length of road and any such sudden change as aforesaid which he thinks ought to be eliminated and requiring the manager to execute, before the expiration of such period beginning with the date on which the notice becomes operative as may be specified therein, such works to that length of road as will eliminate that sudden change.

The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection.

(3) References in this section to changes of gradient shall be construed as including references to deviations (whether upwards or downwards) from the horizontal.

35. (1) Every length of road in a mine which is used at the beginning or end of a shift by not less than ten persons for the purpose of walking to or from their working places in the mine, being a length made after the commencement of this Act, shall be not less than five feet six inches high throughout :

Provided that—

- (a) provision may be made by regulations* for exempting from the foregoing provisions of this subsection any such lengths of road as aforesaid of a prescribed class in mines to which the regulations apply, or any prescribed parts of any such lengths of road in such mines or of any such lengths of road of a prescribed class in such mines; and
- (b) an inspector may, by notice served on the manager of a particular mine, exempt from those provisions any such length of road as aforesaid in that mine or any part of any such length of road.

(2) If, with respect to a length of road in a mine which is used as mentioned in subsection (1) of this section, being a length made before the commencement of this Act which is not throughout of a height of at least five feet six inches, an inspector is of opinion that it is inexpedient that it should continue to be so

*See the Coal and Other Mines (Height of Travelling Roads) Regulations, 1956, page 152.

used unless it is heightened, he may serve on the manager of the mine a notice specifying that length of road and the height (not being more than five feet six inches) to which, in his opinion, it ought to be increased if it is to continue to be so used (hereinafter referred to as 'the specified height'), and directing that, after the expiration of such period beginning with the day on which the notice becomes operative as may be specified therein, every part of that length of road which is so used shall be throughout (except at such places, if any, therein as may be specified in the notice) of a height not less than the specified height.

(3) If, with respect to a length of road in a mine (whether made in whole or in part either before or after the commencement of this Act), being a length which is used as mentioned in subsection (1) of this section, an inspector is of opinion that it is inexpedient that it should continue to be so used unless it is widened, he may serve on the manager of the mine a notice specifying that length of road and the width to which, in his opinion, it ought to be increased if it is to continue to be so used (hereinafter referred to as 'the specified width') and directing that, after the expiration of such period beginning with the day on which the notice becomes operative as may be specified therein, every part of that length of road which is so used shall be throughout (except at such places, if any, therein as may be specified in the notice) of a width not less than the specified width.

(4) The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under either of the two last foregoing subsections.

36. (1) The manager of a mine—

(a) shall not permit vehicles to run in any road therein unless neither the vehicles nor their loads, nor (if the vehicles run as part of rope haulage apparatus) the ropes to which they are attached, nor (if the vehicles are hauled by animals) the animals nor their harnesses rub against the roof or sides of the road, anything supporting the roof and sides of the road or either of them or anything in the road not provided for the purpose of controlling the vehicles or (in the case of vehicles which run as part of rope haulage apparatus) the ropes to which they are attached;

(b) shall not permit a conveyor to be operated in any road therein unless neither the conveyor nor its load rubs against the roof or sides of the road, anything supporting the roof and sides of the road or either of them or anything in the road.

(2) In any prosecution for a contravention of this section with respect to the running of vehicles or the operation of a conveyor in a road in a mine on any occasion, it shall be a defence to prove either—

(a) that the sole purpose for which the vehicles were being run or the conveyor was being operated on that occasion was to facilitate the carrying out to the road of repairs the purpose of the carrying out whereof was to enable the manager of the mine, without contravention of this section, to permit vehicles to run or a conveyor to be operated in that road; or

(b) that—

(i) the fact that rubbing occurred on that occasion was due to a sudden decrease of the height or width of the road which it was impracticable to prevent; and

(ii) there was no reasonable ground for apprehending that the running of the vehicles or the operation of the conveyor, as the case may be, on that occasion would result in bodily injury to persons or animals using the road; and

(iii) no avoidable delay was incurred in taking the steps necessary to complete the carrying out to the road, at the place where rubbing occurred, of such repairs as aforesaid.

37. (1) The manager of every mine shall have power to make rules (hereafter in this Act referred to as 'transport rules') with respect to the use of vehicles and conveyors in the mine and the conditions under which they may be so used and generally for securing the safe operation in the mine of vehicles and conveyors and the avoidance of bodily injury being caused to persons by reason of the running thereof, and in particular, but without prejudice to the generality of the foregoing words,—

(a) specifying a standard height and width with respect to each length of road in the mine in which vehicles run or conveyors are operated;

(b) specifying the maximum loads (by reference to weight, dimensions number or other criterion) that may be carried in vehicles in any length of road in the mine and the maximum number of vehicles (according as to whether they are loaded or unloaded) that may be coupled together to run as a set or train in any length of road in the mine;

(c) specifying the maximum speeds at which vehicles may run in any length of road in the mine; and

(d) prohibiting the conveyance in roads in the mine of persons in vehicles or on conveyors except in such circumstances and in accordance with such conditions, if any, as may be specified in the rules and specifying precautions to be observed when persons are so conveyed.

(2) The exercise by the manager of a mine of the power conferred by the foregoing subsection shall be obligatory for the purpose mentioned in paragraph (a) of that subsection and also for the purposes mentioned in paragraphs (b) to (d) thereof save in so far as an exercise of that power for those purposes could, having regard to the circumstances of the mine, serve no object, and regulations may render an exercise of that power obligatory for any other purpose for which it may be exercised.

(3) The power conferred by subsection (1) of this section to specify by transport rules standard heights and widths with respect to lengths of road may, as respects any particular length of road, be so exercised as either to specify a standard height and width to be applicable without exception throughout that length of road or to specify a standard height and width to be applicable throughout that length of road but subject to exceptions (as regards height or width, or both) for such places therein as may be specified in the rules.

(4) Transport rules having effect with respect to a mine may impose duties and prohibitions on persons employed thereat and may make different provision

with respect to different roads or classes of roads, different lengths of road or lengths of road of different classes and different classes of vehicles, conveyors and loads.

(5) It shall be the duty of the manager of every mine—

- (a) so to frame such of the provisions of transport rules as have effect by virtue of paragraph (a) of subsection (1) of this section as to secure that, as regards any length of road in the mine to which the provisions relate, the specified standard width is not less than such as is sufficient to permit of the provision of such amount of space as may be calculated to secure the safety of persons who work in or pass through that length of road while vehicles are running or conveyors are being operated therein; and
- (b) so to frame such of the provisions of transport rules as have effect by virtue of paragraph (b) or (c) of that subsection as to secure that each maximum thereby specified is such as will, in his opinion, afford a reasonable margin of safety.

(6) It shall be the duty of the manager of every mine—

- (a) to take, with respect to every length of road therein with respect to which a standard height and width is specified by provisions of transport rules having effect by virtue of paragraph (a) of subsection (1) of this section, such steps as are appropriate for securing that the height and width of that length of road throughout are at all times not less than the standard height and width so specified, save, so far as regards any such place therein as is specified in the rules by virtue of subsection (3) of this section, in so far as that height and width are, or either of them is, by virtue of that subsection, inapplicable;
- (b) to secure that all other provisions of transport rules relating to the mine are executed and enforced.

(7) A transport rule which is inconsistent with the provisions of any regulation shall, to the extent of the inconsistency, be of no effect.

(8) If an inspector is of opinion with respect to a mine that provision ought to be made by transport rules having effect with respect to the mine for any matter for which provision is not for the time being made by such rules or that different provision ought to be made by such rules for any matter for which provision is for the time being made by such rules, he may serve on the manager of the mine a notice stating that he is of that opinion, specifying the matter for which, in his opinion, provision or, as the case may be, different provision ought to be made as aforesaid and the nature of the provision that, in his opinion, ought to be made, and requiring the manager, before the expiration of such period beginning with the day on which the notice becomes operative as may be specified therein, to exercise the power conferred on him by subsection (1) of this section in accordance with the tenor of the notice.

The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection.

(9) A copy of all transport rules for the time being in force with respect to a mine shall be kept at the office at the mine or at such other place as may be approved by an inspector, and notices containing a summary of so much of any such rules as affect any person shall be kept posted at suitable places in the mine in such characters and in such positions as to be easily seen and read by him.

(10) A document purporting to be certified by the manager of a mine to be a true copy of any transport rules for the time being in force with respect to the mine shall be receivable in evidence and shall, unless the contrary is proved, be deemed to be such a copy.

38. Regulations* may require the provision, in such cases as may be prescribed, of facilities whereby persons employed below ground in mines may be carried through the roads whereby they go to and from their working places or through parts of those roads, being cases where the provision of such facilities as aforesaid appears to the Minister to be necessary or expedient in the interests of safety or for the purpose of avoiding excessive fatigue being caused to such persons in going to and from those places.

39. (1) The following provisions shall have effect with respect to every length of road in a mine, being a length in which run vehicles moved otherwise than by hand or by animal traction (whether or not vehicles moved by those means also run therein):

- (a) during any period during which vehicles are moving in that length of road otherwise than by those means, no person employed at the mine (other than an authorised person) shall, except in accordance with the provisions of regulations in that behalf, pass on foot along that length of road or any part thereof unless the movement of vehicles in that length of road, other than vehicles moved by those means, is specially stopped for the purpose of allowing him to do so;
- (b) if that length of road is used at the beginning or end, or at the beginning and end, of a shift by not less than ten persons for the purpose of walking to or from their working places in the mine, it shall be the duty of the manager of the mine to fix a period or periods for the purpose of enabling them to do so in safety, and no person shall cause or permit a vehicle (whether loaded or not) to move, otherwise than by those means, in that length of road during a period fixed in pursuance of the foregoing provisions of this paragraph:

Provided that—

- (i) provision may be made by regulations for exempting from the provisions of either or both of the foregoing paragraphs† any such lengths of road as aforesaid of a prescribed class in mines to which the regulations apply, and an inspector may, by notice served on the manager of a particular mine, exempt from the provisions of either or both of those paragraphs any such length of road as aforesaid in that mine; and
- (ii) in any prosecution instituted in respect of a person's passing along a length of road or part thereof in contravention of paragraph (a) of this subsection, it shall be a defence to prove that that person had reasonable cause to believe that it might be necessary for repairs to be carried out forthwith in that length of road and was so passing for the purpose of verifying his belief and of ascertaining the nature or extent of the repairs which he believed it might be necessary to carry out.

*No general regulations for this purpose have yet been made.

†As regards exemption from paragraph (a), see the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956, No. 45, page 146.

As regards exemption from paragraph (b), see the Coal and Other Mines (Transport Roads) Regulations, 1956, page 153.

(2) Except with the written permission of the manager of a mine, no person shall, otherwise than in such circumstances and in accordance with such conditions (if any) as may be specified in transport rules having effect with respect to the mine, accompany on foot below ground in the mine a vehicle which is moving as part of any rope haulage apparatus.

(3) For the purposes of paragraph (a) of subsection (1) of this section the expression 'authorised person' means, in relation to a length of road in a mine—

- (a) an official of the mine;
- (b) a person employed in connection with the running of vehicles in that length of road;
- (c) a person engaged in, or in connection with, the carrying out in that length of road of repairs which it is necessary to carry out forthwith; or
- (d) a person engaged in carrying out, by virtue of the provisions of this Act relating to workmen's inspections or of any such agreement as is mentioned in those provisions* an inspection at the mine.

40. (1) Subject to any exceptions for which provision may be made by regulations† the manager of a mine shall not permit vehicles (not being vehicles moved by hand) to run in any length of road in the mine unless there are provided in that length of road (except in so much, if any, of it as is within seventy-five feet of a working face served by it), at intervals not greater than such as may be prescribed† and in the prescribed† positions, refuge holes each of which is of such dimensions as may be prescribed† and complies with such other requirements as may be prescribed.†

(2) Every refuge hole for the time being provided in a length of road in a mine for the purpose of enabling the manager of the mine, without contravention of the foregoing subsection, to permit vehicles to run in that length of road shall be kept free from obstruction.

(3) In this section the expression 'working face' does not include a place in a road at which ripping or work of repair is in progress.

41. (1) So long as vehicles are used in a mine, there shall be provided, maintained and used, either in the mine or on the vehicles or both in the mine and on the vehicles, such safety devices as are necessary to prevent the occurrence of accidents likely to cause bodily injury to persons, being accidents caused by vehicles so used running away; and every device provided in pursuance of this subsection shall be of a kind designed to assume automatically the position in which it operates for the purpose for which it is designed, save in a case where there is good reason for not providing a device of that kind.

(2) In addition to the provision, in pursuance of the foregoing subsection, of such safety devices as are therein mentioned, there shall be taken, as respects a person who, otherwise than as a matter of routine, is at work at a place in a mine through which vehicles are running or are accustomed to run, such steps as are necessary to protect him from bodily injury in the event of a vehicle's running away while he is at work at that place.

*See Section 123.

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956, No. 47 (page 146) apply.

*Provisions for securing safe operation of Winding and
Rope Haulage Apparatus and Conveyors*

42. (1) No mechanically or gravity operated winding apparatus* with which a mine shaft or staple-pit is provided and no mechanically or gravity operated rope haulage apparatus* at a mine shall be operated on any occasion when persons are carried by means thereof except by a competent male person who has attained the age of twenty-two years appointed by the manager of the mine to operate it on such an occasion; and accordingly it shall be the duty of the manager of every mine to appoint such number (if any) of competent male persons as may be sufficient to secure compliance with the foregoing provisions of this subsection.

(2) It shall be the duty of the manager of every mine to and from which persons gain ingress and egress by being carried through a shaft or unwalkable outlet by means of mechanically or gravity operated winding or rope haulage apparatus, or in which persons gain access to a part thereof by being carried through a staple-pit by means of mechanically or gravity operated winding apparatus, to make, and to secure the efficient carrying out of, arrangements whereby, so long as any person is below ground in the mine who it is intended should come out through that shaft, outlet or staple-pit, a person appointed under this section is in attendance at the mine for the purpose of operating the apparatus aforesaid provided for carrying persons through that shaft or outlet, or, as the case may be, that staple-pit.

(3) An inspector may serve on the manager of a mine a notice requiring him to secure that, at such times as may be specified in the notice, a person who, in pursuance of arrangements made under the last foregoing subsection, is in attendance at the mine is not charged with the duty of operating more than one set of mechanically or gravity operated winding or rope haulage apparatus.

(4) Subject to any exceptions for which provision may be made by regulations,† no person appointed under this section shall be employed at a mine . . . for more than eight hours in any day on which his duties consist of, or include, the operation, when persons are carried by means thereof, of mechanically or gravity operated winding apparatus with which a shaft is provided, and regulations may provide for limiting the number of hours for which any such person may be employed in any week in which his duties consist of, or include, the operation as aforesaid of such apparatus.

43. (1) No mechanically or gravity operated winding apparatus* with which a mine shaft or staple-pit is provided shall be operated on an occasion when no persons are carried by means thereof except by, or under the constant supervision of, a competent male person who has attained the age of twenty-one years.

(2) No mechanically or gravity operated rope haulage apparatus at a mine shall be operated on any such occasion as aforesaid except by, or under the constant supervision of, a competent male person who has attained the age of eighteen years.

*As defined in Section 182 (1).

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956, Nos. 21 to 26 (page 140) apply.

44. No conveyor shall be operated along a working face in a mine except by, or under the constant supervision of, a competent male person who has attained the age of eighteen years.

45. (1) There shall be provided and maintained—

- (a) in connection with every mine shaft provided with winding apparatus, being a shaft in the case of which the distance between the highest and lowest entrances thereto for the time being in use exceeds fifty feet, effective means of transmitting audible and visible signals from each entrance to the shaft for the time being in use to the place at which the winding apparatus is operated;
- (b) in connection with every unwalkable outlet at a mine, being an outlet which is provided with rope haulage apparatus and in the case of which the distance between the terminal surface entrance thereto and the terminal underground entrance thereto exceeds fifty feet, effective means of transmitting audible and visible signals from each entrance to the outlet for the time being in use to the place at which the haulage apparatus is operated;

and provision may be made by regulations* for requiring the provision and maintenance, in connection with mine shafts and unwalkable outlets at mines, of means of transmitting signals between the entrances thereto.

(2) Provision may be made by regulations*—

- (a) for requiring that the prescribed signals shall not be transmitted by means provided in pursuance of, or of regulations having effect by virtue of, the foregoing subsection otherwise than in the prescribed code;
- (b) for requiring the manager of a mine to secure the attendance thereat, at such times as may be prescribed, of persons for the purpose of transmitting signals by those means and receiving signals transmitted thereby.

(3) For the purposes of this section—

- (a) so much of any superstructure provided at the top of a mine shaft as forms an extension thereof shall be deemed to form part of the shaft, and so much of a line of rails running through an outlet as lies between the point at which the outlet reaches the surface and the surface terminus of the line shall be deemed to form part of the outlet;
- (b) the expression 'entrance', in relation to an outlet, includes any place at which vehicles stop for the purpose of loading or unloading; and
- (c) the expressions 'terminal surface entrance' and 'terminal underground entrance', in relation to an outlet, mean, respectively, the surface entrance thereto or, if there is more than one, that one for the time being in use which is furthest from the point at which the outlet reaches the surface and the underground entrance thereto for the time being in use which is furthest from that point.

*No general regulations have yet been made *under either of these subsections*, but in the meantime the provisions of the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956, Nos. 27 to 34 (page 141) apply.

46. Where rope haulage apparatus or a conveyor is installed in a road in a mine or is so installed at a mine as to permit of its operation in a road therein then, if the length of the part of that road through which vehicles can move as part of that apparatus or, as the case may be, through which loads can be carried by means of that conveyor, exceeds ninety feet, there shall be provided and maintained effective means of transmitting signals from every point throughout that part of that road, to the place at which the apparatus or, as the case may be, the conveyor is operated.

47. Regulations* may provide for excluding or modifying the application of all or any of the provisions of the five last foregoing sections in the case of winding or rope haulage apparatus installed at mines or conveyors so installed, being apparatus or conveyors whose operation is remotely controlled or wholly or partly automatic.

Support

48. (1) It shall be the duty of the manager of every mine to take, with respect to every road and working place in the mine, such steps by way of controlling movement of the strata in the mine and supporting the roof and sides of the road or working place as may be necessary for keeping the road or working place secure:

Provided that nothing in this subsection shall require the taking of such steps as aforesaid with respect to a road or part of a road which is, or is comprised in, a part of the mine every entrance to which is for the time being provided, in pursuance of section thirty-three of this Act, with such an enclosure or barrier as is therein mentioned.

(2) It shall be the duty of the manager of every mine to take such steps as may be necessary for securing that he is at all material times in possession of all information relevant for determining the nature and extent of any steps which it is requisite for him to take in order to discharge efficiently the duty imposed on him by the foregoing subsection.

49. (1) Subject to the provisions of this section, in every mine . . . there shall be provided and maintained systematic support† for the roof and sides of—

- (a) every place where any mineral‡ is worked;
- (b) every roadhead;
- (c) every junction of two or more lengths of road through any one of which vehicles or a conveyor run or runs; and
- (d) every length of road in which persons work otherwise than occasionally or for short periods.

(2) If an inspector is of opinion with respect to a length of road in a mine . . . (not being such a length as is mentioned in paragraph (d) of the foregoing subsection) that systematic support for the roof and sides (or either of them) of that length of road ought to be provided and maintained, he may serve on the manager of the mine a notice specifying the length of road, stating that he is of opinion

*No general regulations for this purpose have yet been made.

†See the Coal and Other Mines (Support) Regulations, 1956, Nos. 6 to 11, page 155.

‡As defined in Section 182 (1).

aforesaid with respect thereto and requiring the provision before the expiration of such period beginning with the day on which the notice becomes operative as may be specified therein, and the maintenance after the provision thereof, of systematic support for the roof and sides of that length of road or either of them, according as may be specified in the notice.

The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection.

(3) Regulations* may require or empower inspectors to require the provision and maintenance in mines . . . of systematic support for roofs or sides, or both, in such cases (not being cases falling within subsection (1) of this section) and to such extent as may be prescribed.

(4) Regulations† may provide for exempting from the foregoing provisions of this section any prescribed class of mines . . . or any prescribed classes of places where mineral is worked, roadheads, junctions or lengths of road in such mines or any class thereof, and an inspector may, by notice served on the manager of a particular mine . . . , exempt from those provisions that mine or any such place as aforesaid, roadhead, junction or length of road therein.

(5) For the purposes of this section references to provision and maintenance of systematic support shall, as respects any mine, be construed as references to provision and maintenance of support in accordance with a system specified in rules‡ to be made by the manager of the mine, being a system consistent with the proper control of movement of the strata in the mine.

(6) Nothing in this section shall be construed as preventing a workman in a mine . . . from setting in his working place, in addition to supports set therein in pursuance of a requirement imposed by or by virtue of this section, any support which he has reason to believe it is necessary to set therein for the purpose of securing the safety of himself or another.

50. . . .

51. (1) Subject to any exceptions for which provision may be made by regulations* no materials shall be used for the support of the roof or sides of any place in a mine other than materials provided by the owner of the mine.

(2) No charge shall be levied by the owner of a mine upon any person employed thereat in respect of the provision by the owner of materials for support.

(3) It shall be the duty of the manager of every mine to secure that a sufficient supply of suitable materials for support is at all times readily available, for use at the place where he is actually working, to each workman who needs them, and—

(a) where a sufficient supply of such materials is not readily available, for use at the place where he is actually working, to a workman who needs them, he shall withdraw to a place of safety and forthwith report to an official of the mine that, by reason of the premises, he has done so; and

*No general regulations for this purpose have yet been made.

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Support) Regulations, 1956, Nos. 6 to 11 (page 155) apply.

‡See Section 54.

- (b) where it appears to the person for the time being in charge of a part of a mine that such a supply is not available as aforesaid to a workman employed in that part of the mine, the said person shall cause the workman to withdraw as aforesaid;

and where, on any occasion, a workman has, in pursuance of either of the foregoing paragraphs, withdrawn from the place where he was actually working, the person for the time being in charge of the part of the mine in which that place is situate shall not permit the workman to return to it thereafter until that person is satisfied that such a supply of materials as aforesaid will be readily available, for use at that place, to that workman when he needs them.

52. (1) No person shall withdraw support from the roof or sides of any place in a mine otherwise than by a method or device by which he does so from a position of safety.

(2) Where it is part of the system of work at a place in a mine to withdraw from the waste or from under the roof adjoining the waste support provided in compliance with a requirement to provide it imposed by or by virtue of section forty-nine or fifty of this Act, no person shall, at that place, otherwise than in accordance with a system specified in rules* to be made by the manager of the mine, withdraw as aforesaid support so provided.

53. It shall be the duty of every person employed at a mine who is appointed† for the purpose of fulfilling any requirements imposed with respect to the mine by virtue of paragraph (a) of subsection (1) of section twelve of this Act to ensure to the best of his ability that all such rules made under or by virtue of any of the foregoing provisions of this Act relating to support as have effect with respect to the mine are executed and enforced and that there are duly set any supports which appear to him to be necessary in addition to those set in pursuance of the requirements imposed by or by virtue of the said provisions.

54. (1) Rules made under or by virtue of any of the foregoing provisions of this Act relating to support are hereafter in this Act referred to as 'support rules'.

(2) Support rules with respect to a mine shall comply with such requirements with respect to the form thereof and the matters to be specified therein as may be prescribed‡, and may impose upon persons employed at the mine such duties and prohibitions as it appears to the manager of the mine requisite or expedient to impose on them for securing compliance with any requirement imposed by or by virtue of the foregoing provisions of this Part of this Act relating to support.

(3) If, with respect to any support rules for the time being in force with respect to a mine, an inspector is of opinion that the rules require modification in any particular, he may serve on the manager of the mine a notice specifying the rules, stating that he is of opinion aforesaid and specifying the particular in which, in his opinion, the rules require modification and the nature of the modification that, in his opinion, ought to be made, and requiring the manager, before the expiration of such period beginning with the date on which the notice becomes operative as may be specified therein, to modify the rules in accordance with the tenor of the notice.

*See Section 54.

†See note on Section 12.

‡See the Coal and Other Mines (Support) Regulations, 1956, Nos. 6 to 11 and 15, pages 155 and 158.

The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection.

(4) A support rule which is inconsistent with the provisions of any regulation shall, to the extent of the inconsistency, be of no effect.

(5) A copy of all support rules for the time being in force with respect to a mine shall be kept at the office at the mine or at such other place as may be approved by an inspector and where, by virtue of paragraph (d) of subsection (1) of section twelve of this Act, districts are delimited in a mine for the purpose of the discharge of their duties by persons appointed for the purpose of fulfilling the requirements imposed with respect to the mine by virtue of paragraph (a) of that subsection, a copy of so much of the said rules as relates to each district shall be supplied by the manager of the mine to the person so appointed who is in charge of the district and shall be kept posted at the entrance to the district in such characters and in such a position as to be easily seen and read by the persons employed in the district.

(6) It shall be the duty of the manager of every mine with respect to which support rules are for the time being in force to supply to every person employed at the mine whose duties consist of, or include, the setting of supports in accordance with a system specified in the rules, a document explaining either verbally or diagrammatically, or partly in the one way and partly in the other, the effect of the rules so far as they concern him.

(7) A document purporting to be certified by the manager of a mine to be a true copy of any support rules for the time being in force with respect to the mine shall be receivable in evidence and shall, unless the contrary is proved, be deemed to be such a copy.

Ventilation

55. (1) It shall be the duty of the manager of every mine to take such steps as are necessary for securing that there is constantly produced in all parts of the mine below ground ventilation adequate for the following purposes, namely,—

(a) diluting gases that are inflammable or noxious so as to render them harmless and removing them; and

(b) providing air containing a sufficiency of oxygen.

(2) Without prejudice to the general application of the foregoing subsection,—

(a) ventilation produced in a part of a mine shall be deemed for the purposes of that subsection not to be adequate for the purpose of diluting carbon dioxide so as to render it harmless unless the amount thereof in the general body of the air in that part of the mine is not more than one-and-a-quarter per cent. by volume or, if a smaller percentage by volume is prescribed*, that smaller percentage;

(b) ventilation produced in a part of a mine shall be deemed for the purposes of that subsection not to be adequate for the purpose of providing air containing a sufficiency of oxygen unless the amount of oxygen in the general body of the air in that part of the mine is not less than nineteen per cent. by volume;

*No smaller percentage of carbon dioxide for this purpose has yet been prescribed.

and regulations* may provide that, without prejudice to the general application of that subsection, ventilation produced in a part of a mine shall be deemed for the purposes of that subsection not to be adequate for the purpose of diluting a prescribed gas (other than carbon dioxide) that is inflammable or noxious so as to render it harmless unless the amount thereof in the general body of the air in that part of the mine is less than the prescribed percentage by volume.

(3) In the discharge of the duty imposed on him by subsection (1) of this section, the manager of a mine shall have regard to the desirability of securing (consistently with the discharge of that duty) the maintenance in the mine of working conditions that are reasonable so far as regards the temperature and humidity of the atmosphere and the amount of dust therein.

(4) Nothing in subsection (1) of this section shall be construed as requiring the production of ventilation—

(a) in a part of a mine which is stopped off in a prescribed† manner or in such other manner as may be approved by an inspector by notice served on the manager of the mine or is stowed up;

(b) in any waste; or

(c) in any such other part of a mine as may be prescribed.‡

(5) Where, in any part of a mine required by the foregoing provisions of this section to be ventilated, the ventilation is interrupted or ceases to be adequate for the purposes mentioned in subsection (1) of this section, it shall be the duty of the manager of the mine to secure that, until the ventilation is restored, access to that part of the mine is so restricted as to prevent from entering it any person not authorised to do so and no person is permitted to remain in or pass through it except for the purpose of restoring the ventilation or in a case of emergency.

56. (1) This section applies to waste other than—

(a) waste which is—

(i) stopped off in a prescribed† manner or in such other manner as may be approved by an inspector by notice served on the manager of the mine in which it is contained; or

(ii) stowed up; or

(b) waste, other than as aforesaid, with respect to which it is known that there is therein—

(i) no inflammable gas; and

(ii) either no noxious gas or no noxious gas in a dangerous concentration.

(2) It shall be the duty of the manager of every mine which contains any waste to which this section applies to secure either—

(a) that there is constantly produced in that waste ventilation adequate for the purposes mentioned in subsection (1) of the last foregoing section; or

*No general regulations for this purpose have yet been made.

†No manner of stopping off for this purpose has yet been prescribed by general regulations.

‡No 'other part' of a mine for this purpose has yet been prescribed.

(b) that appropriate steps are taken for the purpose of minimising dangerous emissions from that waste of inflammable or noxious gas.

(3) Subsection (2) of the last foregoing section shall, with any requisite modifications, apply for the purposes of paragraph (a) of the last foregoing subsection as it applies for the purposes of subsection (1) of that section.

57. (1) If an inspector is of opinion, with respect to a part of a mine that is by section fifty-five of this Act required to be ventilated, that, in the interests of the safety or health of the persons employed in that part of the mine, it is necessary or expedient to improve the ventilation produced therein, he may serve on the manager of the mine a notice specifying that part and stating that he is of opinion aforesaid with respect thereto and requiring (according as may be specified in the notice) either—

(a) that ventilation which, after the expiration of such period beginning with the day on which the notice becomes operative as may be specified therein, is produced in that part of the mine in pursuance of the said section fifty-five, must conform to such requirements as may be specified in the notice; or

(b) that such works for the purpose of improving the ventilation in that part of the mine as may be specified in the notice shall be executed before the expiration of that period.

(2) The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under the foregoing subsection.

58. (1) Unless, in all parts of a mine that are required by section fifty-five of this Act to be ventilated, ventilation adequate for the purposes specified in subsection (1) of that section is provided wholly by natural means, there shall be provided and maintained on the surface of the mine mechanically operated apparatus capable of producing in all those parts of the mine an amount of ventilation sufficient (apart from any ventilation produced by any mechanically operated apparatus below ground) to enable all the persons who are below ground in the mine at any one time to leave it safely; and any apparatus provided in pursuance of this subsection shall, if it is not normally used to produce ventilation, be used once at least in each week and be kept constantly available for use.

(2) Where (whether in pursuance of the foregoing subsection or not) there is provided on the surface of a mine . . . mechanically operated apparatus for producing ventilation below ground in the mine, then, unless that apparatus is so designed or adapted, and is so installed, as to permit of its operation both by way of forcing air into, and by way of exhausting air from, the mine, there shall be provided in association with that apparatus, maintained and kept constantly available for use, adequate means for reversing the direction of flow of the ventilation produced by that apparatus.

(3) Regulations* may—

(a) exempt any prescribed class of mines from the provisions of subsection (1) of this section;

(b) exempt any prescribed class of mines . . . from the provisions of subsection (2) of this section;

*No general regulations for either of these purposes have yet been made.

and an inspector may . . . by notice served on the manager of a particular mine . . . exempt the mine from the provisions of either or both of those subsections :

Provided that no exemption shall be granted by regulations made by virtue of this subsection unless the Minister is satisfied that no persons employed in mines of the class to which the regulations apply will be exposed to undue risk in consequence of the granting of the exemption, and no exemption shall be granted under this subsection by an inspector in the case of a particular mine unless he is satisfied that no persons employed in that mine will be exposed to undue risk in consequence of the granting of the exemption.

(4) It shall not be lawful to use a fire for ventilation in a mine or, except with the consent of an inspector, given by notice served on the manager of the mine, to release in a mine compressed air for the purpose thereby of diluting or removing inflammable or noxious gas.

59. (1) Where, of any two lengths of different passages in a mine . . . one is made after the commencement of this Act (whatever the date of the making of, or of any part of, the other), then, unless there is (without any steps being taken for the purpose of minimising the leakage of air between them) no, or no appreciable, leakage of air between them, it shall not be lawful to use one as, or as part of, an intake airway and the other as, or as part of, a return airway unless such steps are taken as are necessary for the purpose of minimising the leakage of air between them :

Provided that nothing in the foregoing provisions of this subsection shall render unlawful the use as, or as part of, an airway of so much of any passage in a mine as lies within the relevant distance from a working face to which air is supplied or from which air is drawn off through that airway.

(2) For the purposes of the proviso to the foregoing subsection—

(a) the expression 'relevant distance' means, in relation to a working face in a mine, four hundred and fifty feet (measured from any point on that face in a straight line on any plane) or such other distance, so measured (whether greater or less than four hundred and fifty feet), as may, in any particular case, be determined by an inspector by notice served on the manager of the mine; and

(b) the expression 'working face' does not include a place in a road at which ripping or work of repair is in progress.

60. (1) At every mine . . . there shall be provided in a conspicuous place and in such a position as to be easily seen and read by the persons employed at the mine a barometer which shall, in such cases as may be prescribed*, be of the prescribed* kind.

(2) Provision may be made by regulations for requiring—

(a) the provision at any such mine as aforesaid of a barometer of a prescribed kind in addition† to that required by the foregoing subsection to be provided thereat;

*No special kind of barometer for this purpose has yet been prescribed.

†No additional kind of barometer for this purpose has yet been prescribed.

(b) the provision at the prescribed* places in mines of the prescribed* instruments for measuring the temperature or humidity, or temperature and humidity, of the atmosphere;

(3) Every instrument provided at a mine in pursuance of, or of regulations having effect by virtue of, the foregoing provisions of this section shall be properly maintained, and regulations† may require that any such instrument shall be read by such persons at such times as may be prescribed and that the readings shall be entered by those persons in a book‡ to be provided for that purpose by the owner of the mine.

Lighting, Lamps and Contraband

61. (1) It shall be the duty of the manager of every mine—

(a) to secure the provision of—

(i) suitable and sufficient lighting (whether natural or artificial) in every part of the mine above ground in or through which persons work or pass (account being taken, where lamps are normally carried by persons who work in or pass through any such part, of the amount of light emitted by those lamps);

(ii) suitable and sufficient artificial lighting in every part of the mine below ground in or through which persons work or pass, other than a part in which the installation of artificial lighting is inadvisable for reasons of safety or is unnecessary because of the amount of light emitted by lamps normally carried by persons who work in or pass through it or for any other reason;

(b) to secure that all apparatus installed at the mine for producing artificial lighting thereat is properly maintained.

(2) Provision may be made by regulations§ for requiring the provision and maintenance, at such places at a mine as may be prescribed, of such lights as may be prescribed; but nothing in regulations having effect by virtue of this subsection shall be construed as being in derogation of the general obligation imposed by subsection (1) of this section.

62. (1) Subject to the provisions of this section, no lamps or lights other than permitted lights|| shall be allowed or used below ground in a mine . . . first opened on or after the date of the commencement of this Act.

(2) Subject to the provisions of this section, no lamps or lights other than permitted lights shall be allowed or used below ground in a mine . . . first opened before the said date, being either—

(a) a mine in the case of which, immediately before that date, the use below ground therein of lamps or lights, other than locked safety-lamps or some other means of lighting the use of which below ground therein was

*No instruments for this purpose have yet been prescribed.

†See the Coal and Other Mines (Managers and Officials) Regulations, 1956, Nos. 17, 25, 30 and 31, pages 112, 113 and 115.

‡M. & Q. Form Nos. 232 (42A) and 234 (46A).

§No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Safety Lamps and Lighting) Regulations, 1956, No. 17 (page 173) apply.

||As defined in Section 182 (1).

authorised by or under the enactments repealed by this Act, was unlawful or would have been unlawful but for an exemption then in force; or

(b) a mine (other than as aforesaid) in the case of which locked safety-lamps were being used below ground therein immediately before that date otherwise than by way of temporary precaution.*

(3) Subject to the provisions of this section, no lamps or lights other than permitted lights shall, in the case of a mine . . . first opened before the said date (not being a mine to which subsection (2) of this section applies) . . . be allowed or used below ground after—

(a) the occurrence in any part of the mine below ground of an ignition or explosion of gas naturally present in the mine (whether or not causing death or bodily injury)†; or

(b) the introduction of the use, in any part of the mine below ground, of locked safety-lamps otherwise than by way of temporary precaution; or

(c) the expiration of the period of four weeks beginning with the day next following that on which there has become operative a notice served on the manager of the mine by an inspector stating that he is of opinion that no lamps or lights other than permitted lights ought to be used below ground in the mine.

(4) Such a notice as is mentioned in paragraph (c) of the last foregoing subsection shall not be served otherwise than in a case where inflammable gas is known to have been naturally present in the mine to which it relates at some time during the period of five years ending with the date on which service is effected, and the provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to any such notice.

(5) If an inspector is satisfied with respect to a mine or a part of a mine that, by reason of the special character of the mine or part, compliance with the requirements of the foregoing provisions of this section is unnecessary, he may, by notice served on the manager of the mine, exempt the mine or part from those provisions:

Provided that no exemption from the said provisions of a part of a mine . . . shall be granted after the expiration of the period of four years beginning with the commencement of this Act‡ or shall be granted or renewed before the expiration of that period otherwise than so as to expire not later than the expiration of that period.

63. Regulations may|| make provision with respect to—

(a) the construction of safety-lamps and other lighting apparatus for use in mines and of parts of, and accessories to, such lamps or apparatus;

(b) the repair, maintenance, alteration, adjustment and testing of such lamps, apparatus, parts and accessories;

*See Section 182 (4).

†As defined in Section 182 (1).

‡i.e., after 31st December, 1960 (existing exemptions, continued in force by Section 191 (1), expire automatically on that date).

||No new general regulations have yet been made *under this Section*, but in the meantime the provisions of the Coal and Other Mines (Safety Lamps and Lighting) Regulations, 1956 (page 170) apply.

(c) the giving out to, and the use and handing in by, persons employed at mines of such lamps and apparatus.

64. (1) No person shall take or use below ground in a mine a safety-lamp other than one provided by the owner of the mine.

(2) No person shall take or use below ground in a mine a safety-lamp other than one of a type for the time being approved* by the Minister—

(a) for use in mines generally, in mines of a class to which that mine belongs or in that mine; and

(b) for use by all persons or persons of a class to which that person belongs.

65. (1) A person who damages, destroys or loses or suffers to be damaged, destroyed or lost a safety-lamp given out to him at a mine shall be guilty of an offence:

Provided that, in any proceedings taken against a person in respect of an offence under this section with respect to a safety-lamp, it shall be a defence for him to prove that he took reasonable steps for the care and preservation of the lamp and that, immediately after the occurrence of the damage, destruction or loss, as the case may be, he notified an official of the mine of its occurrence.

(2) A person who tampers with a safety-lamp given out to him at a mine shall be guilty of an offence.

66. (1) A person who takes or has in his possession below ground in a safety-lamp mine† or takes into, or has in his possession in, a safety-lamp part of a mine† any cigar or cigarette, any pipe or other contrivance for smoking or any match or mechanical lighter, shall be guilty of an offence.

(2) It shall be the duty of the manager of every safety-lamp mine and of every mine containing a safety-lamp part—

(a) to make, and to ensure the efficient carrying out of, arrangements whereby all persons employed below ground in the mine or, as the case may be, employed in the safety-lamp part thereof or such of those persons as may be selected in accordance with a system approved by an inspector by notice served on the manager of the mine, and any articles which they have with them, and all other persons and any articles which they have with them, will, for the purpose of ascertaining whether any of them has in his possession any such article as is mentioned in subsection (1) of this section, be searched in the authorised manner‡ immediately before, or (if that is impracticable) immediately after, they go below ground in the mine on any occasion or, as the case may be, enter the safety-lamp part thereof on any occasion; and

(b) to secure that, at any time when the said arrangements are not in operation, no person goes below ground in the mine or, as the case may be, enters the safety-lamp part thereof;

*Lists of approved safety lamps are published separately.

†As defined in Section 182 (1).

‡See The Mines (Manner of Search for Smoking Materials) Order, 1956, page 177.

and the manager of every safety-lamp mine and of every mine containing a safety-lamp part may, at any time when a person is below ground in the mine or is in the safety-lamp part thereof, as the case may be, cause him and any article which he has with him to be searched in the authorised manner* for the purpose of ascertaining whether he has in his possession any such article as is mentioned in subsection (1) of this section.

(3) Where, upon a search made in pursuance of this section, a person who is about to go below ground in a safety-lamp mine or to enter a safety-lamp part of a mine is found to have in his possession any such article as is mentioned in subsection (1) of this section, he shall be guilty of an offence.

(4) Without prejudice to the institution of proceedings against a person for an offence under this section, any such article as is mentioned in subsection (1) of this section which is found upon any search made at a mine in pursuance of this section may be seized by the person making the search and dealt with in such manner as may be directed by the manager of the mine.

(5) No person shall, in pursuance of this section, search any other person on any occasion unless he has previously given on that occasion an opportunity to some two other persons to search himself and, if searched by them, has not been found to have in his possession any such article as is mentioned in subsection (1) of this section.

(6) A person who on any occasion refuses to allow himself or an article which he has with him to be searched in pursuance of this section shall be guilty of an offence and, without prejudice to the institution of proceedings against him in respect of the offence, if the refusal occurs before he goes below ground in a mine shall not be allowed to go below ground in it on that occasion and, if the refusal occurs when he is in a mine, shall not be allowed to remain in it on that occasion.

(7) It shall be the duty of the manager of every safety-lamp mine and of every mine containing a safety-lamp part to secure that, at or near every place where searches are carried out under arrangements made in pursuance of paragraph (a) of subsection (2) of this section, notices warning persons of their liability under subsection (1) thereof are kept posted in such characters and in such positions as to be easily seen and read by persons liable to be searched.

(8) In this section the expression 'mechanical lighter' means a mechanical, chemical or electrical contrivance designed or adapted primarily for the purpose of igniting tobacco and the expression 'authorised manner' means such manner as may be specified in an order made by the Minister.

67. (1) Subject to the provisions of this section, no article designed or adapted to produce an unprotected flame or an unprotected spark shall be taken or used below ground in a safety-lamp mine† or taken into, or used in, a safety-lamp part of a mine.†

(2) Nothing in the foregoing subsection shall be construed as prohibiting—

(a) the taking into, or use in, a mine or part of a mine of any article in accordance with this Act or regulations;

*See The Mines (Manner of Search for Smoking Materials) Order, 1956, page 177.

†As defined in Section 182 (1).

- (b) the taking into, or use in, a mine of any class or part of a mine of any class of an article of a description authorised by order* of the Minister to be used in a mine of that class;
- (c) the taking into, or use in, a mine or part of a mine of an article of a description authorised in writing by an inspector to be used in that mine or, as the case may be, that part of that mine.

Electricity and Electrical Apparatus

68. (1) Regulations† may make provision with respect to any of the following matters, namely,—

- (a) the generation, storage, transformation, transmission and use of electricity at mines; and
- (b) the use, construction, installation, examination, repair, maintenance, alteration, adjustment and testing of electrical apparatus and electric cables at mines;

shall make provision for requiring that, where the amount of inflammable gas in the general body of the air in a part of a mine below ground exceeds such percentage by volume (which shall not exceed one-and-a-quarter) as may be prescribed,‡ the supply of electricity to all apparatus in that part of the mine (other than such apparatus as may be prescribed‡ being apparatus as to which the Minister is satisfied that the continued use thereof will not involve undue risk), shall be cut off; and may make provision for requiring the cutting off, in such circumstances (other than as aforesaid) as may be prescribed‡ of the supply of electricity to apparatus below ground in a mine.

(2) If, with respect to a mine, an inspector is of opinion that the use of electricity below ground therein or in any part thereof below ground would or might involve substantial risk of an explosion of gas or dust, he may serve on the manager of the mine a notice§ stating that he is of that opinion, and prohibiting, or restricting to such extent as may be specified in the notice, the use of electricity below ground in the mine or in that part thereof, as the case may be.

The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection and any such notice shall, if it is so specified therein, become operative forthwith.

*A buffing machine for use in connection with the repair of conveyor belts, consisting of a buffing pad attached to the spindle of either a Siemens-Schuckert E.47 A.C. electric motor of the type covered by Flameproof Certificate No. FLP 2500 or a Holman Roto Sander (Size No. 2) compressed air drilling machine, has been authorised for use.

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Electricity) Regulations, 1956, and of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956 (pages 178 and 117) apply.

‡No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Electricity) Regulations, 1956, No. 6 (page 180) apply.

See also Section 146 (2).

Blasting Materials and Devices

69. (1) Regulations* may make provision for prohibiting or restricting the supply, storage or use at mines of blasting materials and devices or any class thereof and, in particular, for prohibiting or restricting the use of such materials and devices or any class thereof in a part of a mine below ground at any time at which the amount of inflammable gas in the general body of the air in that part exceeds the prescribed percentage by volume and in such other circumstances (if any) as may be prescribed.

(2) The Minister may by order† impose prohibitions or restrictions on the use, at mines or mines of any class, of any blasting material or device or any class of blasting materials and devices in any case where—

- (a) regulations having effect by virtue of the foregoing subsection do not prohibit or restrict, or do not, in the opinion of the Minister, sufficiently restrict, the use at mines or mines of that class, as the case may be, of that material or device or such materials and devices of that class, as the case may be; and
- (b) the dangers inherent in the use at mines or mines of that class, as the case may be, of that material or device or such materials and devices of that class, as the case may be, are in his opinion such as to render it necessary or expedient for provision for prohibiting or restricting or, as the case may be, further restricting the use at mines or mines of that class, as the case may be, of that material or device or such materials and devices of that class, as the case may be, to be made by such regulations and for temporary provision in that behalf to be made forthwith by the order pending the coming into operation of provision in that behalf made by such regulations.

(3) No blasting material or device shall be taken or used below ground in a mine other than material or a device provided by the owner of the mine.

(4) In this section the expression 'blasting materials and devices' means explosives and any articles designed for the purpose of breaking up or loosening minerals‡ by means of explosion, the expansion of gas, the change of a substance from one physical state to another or a chemical reaction not constituting combustion.

Fire Precautions and Provisions as to Rescue

70. (1) Subject to the provisions of this section, it shall not be lawful for more than one hundred persons to be employed below ground in a mine . . . in circumstances in which, if there were a fire in any length of intake airway through which the air supply to all of those persons passes, none of them would be able to withdraw from the mine without either passing through the fire or following a way out to the surface in which, or in any part of which, the air would or

*No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal Mines (Explosives) Regulations, 1956, and of the Coal Mines (Cardox and Hydrox) Regulations, 1956 (pages 187 and 216) apply.

†No order for this purpose has yet been made.

‡As defined in Section 182 (1).

might become so contaminated by the products of combustion generated by the fire as to prejudice seriously the possibility of the withdrawal of persons through it in safety, unless—

- (a) that length of intake airway and everything with which it is equipped are so constructed or treated, and so maintained and used, that that length of airway is, so far as can be reasonably foreseen, free from the risk that any fire that might break out therein would so develop as to prevent or endanger the withdrawal from the mine of those persons; or
- (b) means are provided for securing that, in the event of a fire in that length of intake airway, those persons will be able to withdraw in safety.

In computing, for the purposes of this subsection, the number of persons employed in such circumstances as aforesaid, a person going to or from his working place at the beginning or end of his shift shall, unless it is otherwise prescribed (either generally or in relation to any particular circumstances), be left out of account.

(2) Until the expiration of the period of five years beginning with the commencement of this Act,* so much of any road or other passage serving as an airway as was made before the commencement of this Act shall be disregarded for the purposes of the foregoing subsection.

(3) Regulations† may provide for exempting from the provisions of subsection (1) of this section any prescribed class of mines . . . and an inspector may, by notice served on the manager of a particular mine . . . , exempt the mine or any part thereof from those provisions.

(4) Regulations‡ may provide that the foregoing provisions of this section shall—

- (a) . . .
- (b) have effect, in their application to mines of a prescribed class . . . with the substitution, for the reference in subsection (1) to one hundred, of a reference to such less number as may be prescribed.

71. (1) The Minister may by order‡ appoint for the purposes of this subsection a day in relation to a class of mines specified in the order, and where a day is appointed under this subsection in relation to a class of mines it shall not, after that day, be lawful to use below ground in a mine of that class brattice sheeting other than of a type for the time being approved by the Minister for use in mines of that class.

(2) The Minister may by order|| appoint for the purposes of this subsection a day in relation to a class of mines specified in the order or to parts specified in the order of mines of a class so specified (being parts below ground) and—

- (a) where a day is appointed under this subsection in relation to a class of mines, it shall not, after that day, be lawful to use below ground in a mine of that class conveyor belting other than of a type approved by the Minister for use in mines of that class;

*i.e., until 31st December, 1961.

†No general regulations for this purpose have yet been made.

‡No order for this purpose has yet been made. See, however, page 168 as regards the use of fire-resisting material for ventilating sheets in naked light mines.

||No order for this purpose has yet been made.

- (b) where a day is so appointed in relation to specified parts of mines of a specified class, it shall not, after that day, be lawful to use in any such part of a mine of that class conveyor belting other than of a type approved by the Minister for use in mines of that class.

72. Regulations* may require the making of such provision as may be prescribed for all or any of the following purposes, namely, the prevention, detection and combating of outbreaks of fire at, and spontaneous heating occurring in, mines and the securing of the efficient conduct (as well in an atmosphere dangerous to life as in an atmosphere not dangerous to life) of such operations for the rescue of persons as it may be necessary to conduct at mines in consequence of the occurrence thereof of outbreaks of fire, explosions or other accidents of whatsoever kind, and in particular, but without prejudice to the foregoing provisions of this section, regulations may make provision—

- (a) for the establishment and maintenance at mines of such organisations of persons as may be necessary for any of the purposes aforesaid and the provision and maintenance at mines of suitable and sufficient apparatus for any of those purposes, and, in particular, the provision at mines of adequate supplies of water for use in case of fire;
- (b) for requiring owners of mines to provide and maintain stations (hereafter in this Act referred to as 'central rescue stations') for the purpose of providing facilities common to a number of mines for the conduct of such operations as aforesaid, and for the establishment and maintenance at such stations of such organisations of persons as may be necessary for the purpose of conducting such operations and the provision and maintenance thereof of suitable and sufficient apparatus for that purpose; and
- (c) for securing the efficient training of the members of any organisation of persons maintained in pursuance of the regulations.

73. It shall not be lawful for a person to be employed at a mine in a room chamber, or similar confined space in which, owing to the nature of any machinery or apparatus installed therein or of any materials stored therein, there is a risk of the outbreak of a dangerous fire or the escape of steam in substantial quantity or of noxious gas in a dangerous concentration, unless either such steps are taken (whether by the provision of two or more exits or otherwise) as are necessary for the purpose of minimising the risk of his being trapped therein in any such event or the circumstances in which he is employed are themselves such as to minimise the risk of his being so trapped.

Dust Precautions

74. (1) It shall be the duty of the manager of every mine to ensure that, in connection with the getting, dressing and transporting of minerals† below ground in the mine, the giving off of—

- (a) any dust that is inflammable; and

*No new general regulations have yet been made *under this Section*, but in the meantime the provisions of the Coal and Other Mines (Fire and Rescue) Regulations, 1956 (page 223) apply.

†As defined in Section 182 (1).

(b) dust of such character and in such quantity as to be likely to be injurious to the persons employed;
is minimised.

(2) Where, in connection with the carrying on of any operations or process below ground in a mine or in a building on the surface of a mine, there is given off any dust that is inflammable or dust of such character and in such quantity as to be likely to be injurious to the persons employed, it shall be the duty of the manager of the mine to ensure—

- (a) that the entry of the dust into the air or its accumulation in any place in circumstances in which its accumulation in that place might be dangerous or harmful is minimised by means of steps in that behalf taken as near as possible to the point of origin of the dust;
- (b) that any of the dust which enters the air is trapped or so dispersed as to render it harmless; and
- (c) that any of the dust which is not prevented from accumulating in a place in circumstances in which its accumulation in that place might be dangerous or harmful is either systematically cleaned up and removed to a place where it cannot be dangerous or harmful or treated in manner approved by the Minister for the purpose of rendering it harmless.

(3) Regulations* may impose upon managers of mines such requirements with respect to the use thereof of prescribed apparatus and the taking thereof of prescribed steps as it may appear to the Minister requisite or expedient to impose for the purpose of attaining any of the objects mentioned in the foregoing provisions of this section; and regulations having effect by virtue of this subsection may provide either that compliance therewith by the manager of a mine is to be taken, either without qualification or to a prescribed extent, as compliance with all or any of the requirements of the said provisions or that compliance with the regulations by the manager of a mine is not necessarily to be taken as compliance with any of the said requirements.

Precautions against external Dangers to Workings

75.† (1) In the case of every mine, the owner thereof and the manager thereof shall each be charged with the duty—

- (a) of taking such steps as may be necessary for securing that he is at all material times in possession of all information which indicates or tends to indicate the presence or absence, in the vicinity of any workings carried on or proposed to be carried on in the mine, of—

- (i) any disused workings (whether mine workings or not);
- (ii) any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities);
- (iii) any peat, moss, sand, gravel, silt or other material that is likely to flow when wet; and

*No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal Mines (Precautions against Inflammable Dust) Regulations, 1956 (page 239) apply.

†See also the Coal and Other Mines (Precautions against Inrushes) Regulations, 1956, No. 2 (page 245) which applies without prejudice to the generality of this Section.

(b) of taking such steps as may be necessary for the purpose of substantiating any such information which comes into his possession (whether in consequence of the discharge of the duty imposed upon him by the foregoing paragraph or not).

(2) In the case of every mine, the owner thereof and the manager thereof shall each be charged with the duty—

(a) forthwith after any such information as is mentioned in paragraph (a) of the foregoing subsection comes into his possession (whether in consequence of the discharge of the duty imposed upon him by that paragraph or not), of furnishing to the other particulars of the information; and

(b) forthwith after taking any steps in discharge of the duty imposed upon him by paragraph (b) of that subsection, of furnishing to the other particulars of the steps taken and of any conclusion reached as a result of taking them;

76. (1) It shall be the duty both of the owner and of the manager of every mine to take, with respect to any workings carried on or proposed to be carried on in the mine in the vicinity of the sea, a lake or river or any other body of surface water (whether accumulated naturally or artificially) such steps as may be necessary for ascertaining the total thickness of the strata lying between the workings and the surface water.

(2) In the case of every mine, the owner thereof and the manager thereof shall each be charged with the duty, forthwith after obtaining any information in consequence of the discharge of the duty imposed upon him by the foregoing subsection, of furnishing to the other particulars of the information obtained.

77. It shall be the duty of the manager of every mine to take, with respect to every working in the mine, such steps* as may be necessary to prevent any inrush into the working of gas from disused workings (whether mine workings or not) or of water or material that flows when wet (whether from disused workings or from any other source).

78. (1) Where an inspector is of opinion, with respect to a working in a mine, that there is a danger of the occurrence of such an inrush into the working as is mentioned in the last foregoing section, being a danger that in his opinion is capable of being averted, and either no steps for averting the danger have been taken or steps that have been taken for that purpose appear to the inspector to be inadequate or improper, he may serve on the manager of the mine a notice specifying the working, stating that he is of opinion aforesaid with respect thereto, and that, as the case may be, no steps for averting the danger have been taken or steps so taken appear to him to be inadequate or improper, and imposing all or any of the following requirements, that is to say:

(a) a requirement that the manager shall, before the expiration of such period beginning with the date on which the notice becomes operative as may be specified therein, execute such works for the purpose of averting the danger as may be specified in the notice;

*See also the Coal and Other Mines (Precautions against Inrushes) Regulations, 1956, Nos. 3 to 5 (page 246) which apply without prejudice to the generality of this Section.

(b) a requirement that, until such works have been executed, no person shall (save for the purpose of executing the works or saving life) be permitted by the manager to be in the mine or in such part thereof as may be specified in the notice;

(c) a requirement that operations for getting minerals in the working shall, to such extent as may be specified in the notice, be discontinued until such works have been executed, or shall not be continued otherwise than in accordance with such a system of working as may be so specified.

(2) Where an inspector is of opinion, with respect to a working in a mine, that there is a danger of the occurrence of such an inrush into the working as is mentioned in the last foregoing section, being a danger that in his opinion is not capable of being averted, he may serve on the manager of a mine a notice* specifying the working, stating that he is of opinion aforesaid with respect thereto, and requiring that operations for getting minerals in the working be permanently discontinued, and, if the inspector thinks fit, imposing, in addition, either or both of the following requirements, that is to say:

(a) a requirement that the manager shall, before the expiration of such period beginning with the date on which the notice becomes operative as may be specified therein, execute such works for the purpose of protecting the rest of the mine as may be so specified;

(b) a requirement that, until such works have been executed, no person shall (save for the purpose of executing the works or saving life) be permitted by the manager to be in the mine or in such part thereof as may be specified in the notice.

(3) The provisions of Part XV of this Act with respect to references upon notices served by inspectors shall apply to a notice served under either of the foregoing subsections, and any such notice shall, if it is so specified therein, become operative forthwith.

Duties of Officials and Workmen in Cases of Danger

79. (1) Where inflammable gas is present at a place below ground in a mine in a concentration deemed for the purposes of this section to be excessive, the person in charge of the part of the mine in which that place is situate shall comply with the following requirements, namely:

(a) he shall forthwith cause all persons employed in so much of that part of the mine as appears to him to be affected (hereinafter referred to as the 'affected area') to leave it;

(b) unless he is the manager of the mine, he shall, forthwith after complying with the foregoing paragraph, inform his immediate superior and the person in charge of any other part of the mine appearing to him to be likely to be affected that inflammable gas is present at the said place in a concentration deemed as aforesaid to be excessive;

(c) so soon after complying with paragraph (b) of this subsection (or, in a case where that paragraph does not apply, paragraph (a) of this subsection) as it is possible so to do without undue risk, he shall himself

*See also Section 146 (2).

ascertain, or cause some competent person to ascertain, the condition of the affected area and the measures that it is necessary to take for the purpose of rendering it safe.

(2) The foregoing subsection shall, with the requisite modifications, apply where it appears to the person in charge of a part of a mine below ground that there exists at a place in that part a danger constituted—

(a) by the presence of inflammable gas (whether or not the concentration thereof is deemed for the purposes of this section to be excessive); or

(b) otherwise howsoever;

as it applies in the circumstances mentioned in that subsection.

(3) Where, on any occasion, persons have been caused to leave an affected area in pursuance of the foregoing provisions of this section, no person shall thereafter be permitted to enter it until both of the following conditions are fulfilled, namely,—

(a) that inflammable gas is not present at any place therein in a concentration deemed for the purposes of this section to be excessive; and

(b) that the appropriate person is satisfied that it is free from all danger (whether constituted by the presence of inflammable gas or otherwise howsoever):

Provided that nothing in this subsection shall be taken to prohibit a person from entering an affected area for the purpose of saving life, giving effect to paragraph (c) of subsection (1) of this section, rendering that area or any other part of the mine safe or ascertaining either the effectiveness of any measures taken for the last-mentioned purpose or whether, apart from this proviso, persons may lawfully be permitted to enter the affected area.

(4) Where persons have, on any occasion, been caused to leave an affected area in pursuance of the foregoing provisions of this section, the person who caused them to leave it shall record in a book* to be provided for that purpose by the owner of the mine particulars of the reason for his causing them to leave that area and of the matters disclosed as a result of giving effect to paragraph (c) of subsection (1) of this section and subscribe his signature thereto.

(5) For the purposes of this section the concentration inflammable gas present at a place in a mine shall be deemed to be excessive—

(a) if, being a place in—

(i) a safety-lamp mine†; or

(ii) a part of a mine other than a safety-lamp mine, being a part in which the use of lamps or lights other than permitted lights is unlawful;‡

the amount of such gas present in the general body of the air at that place is not less than two per cent by volume or, if a greater percentage by volume (not exceeding two-and-a-half) is prescribed,§ that greater percentage;

*M. & Q. Form No. 210 (47).

†As defined in Section 182 (1).

‡See definition of 'safety-lamp part of a mine' in Section 182 (1).

§No greater percentage of gas for this purpose has been prescribed for general application.

(b) if, being a place other than such a place as is mentioned in the foregoing paragraph, either—

(i) the amount of such gas present in the general body of the air at that place is not less than one-and-a-quarter per cent by volume or, if a smaller percentage by volume is prescribed,* that smaller percentage; or

(ii) an indication of gas is seen at that place on the lowered flame of a safety-lamp;

and for the purposes of subsection (3) of this section the appropriate person, in relation to an affected area, shall be the person in charge of the part of the mine which consists of, or includes, that area, except in a case where any of his superiors is present, and in the said excepted case shall be the senior of his superiors present.

80. If it appears to a person employed at a mine (not being an official of the mine) that a danger affecting the mine or a part thereof has arisen or is about to arise, he shall—

(a) if the taking of measures to render the mine or part safe after that danger has arisen or to prevent that danger from arising, as the case may be, falls within the scope of his normal duties, forthwith take those measures; and

(b) if not, forthwith report the matter to an official of the mine.

Machinery and Apparatus

81. (1) All parts and working gear, whether fixed or movable, including the anchoring and fixing appliances, of all machinery and apparatus used as, or forming, part of the equipment of a mine, and all foundations in or to which any such appliances are anchored or fixed shall be of good construction, suitable material, adequate strength and free from patent defect, and shall be properly maintained.

(2) Provision may be made by regulations—†

(a) for imposing such requirements (in addition to those imposed by the foregoing subsection) with respect to the construction, installation, maintenance, use, testing, repair, adjustment, alteration and examination of such machinery or apparatus as aforesaid as appear to the Minister to be expedient in the interests of the safety or health of persons employed at mines; and

(b) for prohibiting the installation at mines of machinery or apparatus constructed in contravention of the regulations.

82. (1) Subject to the provisions of this section, every flywheel and every other dangerous exposed part of any machinery used as, or forming, part of the equipment of a mine shall be securely fenced; and where means of fencing are

*No smaller percentage of gas for this purpose has yet been prescribed.

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Electricians and Mechanics) Regulations, 1956 (page 117) apply, as also do various provisions of other regulations, in particular about Locomotives (page 247), Steam Boilers (page 258) and Sidings (page 260).

prescribed* with respect to any such part of any such machinery as aforesaid, the fencing provided in pursuance of the foregoing provisions of this subsection for that part shall be provided by those means.

(2) It shall be the duty of the manager of every mine to ensure that fencing provided in pursuance of the foregoing subsection is properly maintained and is kept in position while the parts required to be fenced are in motion or in use, except where such parts are exposed for an examination or adjustment which it is necessary to carry out while they are in motion or use and all such conditions as may be prescribed are complied with.

83. No internal combustion engine, steam boiler or locomotive shall be used below ground in a mine otherwise than in accordance with the provisions of regulations† in that behalf or with the consent of the Minister or an inspector.

84. (1) All apparatus used as, or forming, part of the equipment of a mine, being apparatus which contains or produces air, gas or steam at a pressure greater than atmospheric pressure shall be so constructed, installed, maintained and used as to obviate any risk from fire, bursting, explosion or collapse or the production of noxious gases.

(2) Provision may be made by regulations‡ for prohibiting the installation at mines of such apparatus as aforesaid at places of such descriptions as may be prescribed and for requiring reports to be made of the results of examinations thereof made in pursuance of provisions of regulations having effect by virtue of section eighty-one of this Act.

(3) The Minister may at any time require any such apparatus as aforesaid at a mine to be examined by a person nominated by him and the manager of the mine shall give the necessary facilities for the examination; and if, as a result of the examination, it appears that any report of the result of an examination of the apparatus (being a report made in pursuance of regulations having effect by virtue of the last foregoing subsection) was inadequate or inaccurate in a material particular, the cost of the examination under this subsection shall be recoverable by the Minister from the owner of the mine.

85. (1) There shall be plainly marked on every crane, crab and winch used as, or forming, part of the equipment of a mine the safe working load or loads thereof, except that, in the case of a jib crane so constructed that the safe working load may be varied by the raising or lowering of the jib, there shall be attached thereto either an automatic indicator of safe working loads or a table indicating the safe working loads at corresponding inclinations of the jib or corresponding radii of the load.

(2) No person shall, except for the purpose of a test, load any such crane, crab or winch as aforesaid beyond the safe working load marked or indicated thereon in pursuance of the foregoing subsection.

*No specific means of fencing for this purpose have yet been prescribed.

†No new general regulations have yet been made *under this Section*, but in the meantime the provisions of the Coal and Other Mines (Locomotives) Regulations, 1956 (page 247) apply to certain types of locomotives used below ground in those mines or parts of mines where consent to their use has been given.

‡No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (Steam Boilers) Regulations, 1956, No. 9 (page 259) apply as regards reports of the results of examinations of such boilers.

(3) This section shall not apply to winding apparatus with which a mine shaft or staple-pit is provided or to any rope haulage apparatus, and regulations* may provide that this section shall not apply to any other apparatus of a prescribed class.

Buildings, Structures, Means of Access, &c.

86. All buildings and structures on the surface of a mine shall be kept in safe condition.

87. (1) There shall be provided and maintained safe means of access to every place in or on a building or structure on the surface of a mine, being a place at which any person has at any time to work.

(2) Where a person is to work at any such place as aforesaid from which he will be liable to fall a distance of more than ten feet, then, unless the place is one which affords secure foothold and, where necessary, secure hand-hold, means shall be provided by fencing or otherwise for ensuring his safety.

Training and Discipline

88. It shall be the duty of the manager of every mine to secure that no person is employed thereat in any work otherwise than under the instruction and supervision of some person competent to give instruction in, and supervise, the doing of that work, unless the first-mentioned person has received adequate instruction in, and (where necessary) training† for, the doing of that work and is competent to do it without supervision.

89. A person employed at a mine who contravenes—

- (a) any transport or support rules having effect with respect to the mine; or
- (b) any directions given to him by or on behalf of the owner or manager of the mine or any rule made by the manager of the mine for regulating the conduct either of all persons employed thereat or any class of persons so employed to which that person belongs, being directions given, or a rule made, for the purpose of securing compliance with this Act, orders made thereunder or regulations or any transport or support rules having effect with respect to the mine or of securing the safety or health of that person or any other person employed at the mine;

shall be guilty of an offence.

90. (1) A person who negligently or wilfully does at a mine anything likely to endanger the safety of the mine or the safety or health of persons thereat or negligently or wilfully omits to do at a mine anything necessary for securing the safety of the mine or the safety or health of persons thereat shall be guilty of an offence.

(2) A person (not being an official of the mine) who, without permission granted by such an official, removes, alters or tampers with anything provided at a mine for the purpose of securing the safety or health of persons employed thereat shall be guilty of an offence.

*No general regulations for this purpose have yet been made.

†See also the Coal Mines (Training) Regulations, 1956 (page 264) which apply without prejudice to the generality of this Section.

First Aid

91. (1) It shall be the duty of the manager of every mine to secure the provision thereat of adequate facilities and equipment for the purpose of rendering first-aid to persons employed at the mine who, while so employed, suffer bodily injury* or become ill.

(2) Regulations† may—

(a) determine for mines of any class what are adequate facilities and equipment for the purposes of the foregoing subsection;

(b) require the attendance at mines during working hours of persons trained in first-aid treatment and the making and carrying out at mines—

(i) as respects persons who, while employed below ground thereat, suffer bodily injury or become ill, of such arrangements for their conveyance from the place where they were injured or became ill to the surface as may be prescribed; and

(ii) as respects persons who, while employed thereat (whether above or below ground), suffer bodily injury or become ill, of such arrangements for their conveyance (where necessary) to hospitals or their homes as may be prescribed.

Medical Examinations and Prohibition of Heavy Work

92. Provision may be made by regulations‡ for requiring young persons employed or seeking employment at mines to submit themselves for medical examination and for prohibiting the employment at a mine, either absolutely or in a particular capacity or in particular work, of—

(a) a young person who upon being required to submit himself for medical examination in accordance with the regulations fails without reasonable cause to do so;

(b) a young person as to whom it is determined in accordance with the regulations that, by reason of his physical or mental condition, he is unfit for such employment or for such employment in that capacity or in that work, as the case may be.

93. A woman or young person shall not be employed at a mine to lift, carry or move a load so heavy as to be likely to cause injury to that woman or young person.

General Welfare Provisions

94. (1) It shall be the duty of the manager of every mine to secure the provision thereat (as well below as above ground) of sufficient and suitable sanitary conveniences§ for the use of persons employed thereat being, in a case where persons of both sexes are, or are intended to be, so employed, conveniences affording proper separate accommodation for persons of each sex.

*As defined in Section 182 (1).

†No new general regulations have yet been made *under this subsection*, but in the meantime the provisions of the Coal and Other Mines (First Aid) Regulations, 1956 (page 274) apply without prejudice to the generality of subsection (1).

‡No new general regulations have yet been made *under this Section*, but in the meantime the provisions of the Coal Mines (Medical Examinations) Regulations, 1956 (page 279) apply.

§See also the Coal and Other Mines (Sanitary Conveniences) Regulations, 1956 (page 281) which apply without prejudice to the generality of this Section.

(2) All sanitary conveniences provided in pursuance of the foregoing subsection shall be kept clean and properly maintained and reasonable provision shall be made for lighting them.

95. (1) It shall be the duty of the owner of every mine to take such steps as are necessary to secure that all parts of the mine below ground are kept free from rats and mice, and provision may be made by regulations* for requiring owners of mines to take steps for the destruction below ground therein of insects or any prescribed class of insects or otherwise for keeping parts of mines below ground free from insects or any prescribed class of insects.

(2) Nothing in this section shall be construed as excluding the application to parts of mines below ground of any of the provisions of the Prevention of Damage by Pests Act, 1949.

96. Regulations* may impose such requirements with respect to the provision and maintenance, for the use of persons employed at mines, of—

- (a) washing facilities, including soap and clean towels or other suitable means of cleaning and drying;
- (b) accommodation and facilities for changing into clothing worn during working hours and for storing and drying clothing so worn and clothing not so worn; and
- (c) canteens, or accommodation and facilities (including facilities for heating food and boiling water) for enabling such persons to partake of meals provided by themselves;

as appear to the Minister to be expedient for the purpose of securing the welfare of such persons.

97. There shall be provided and maintained on the surface of every mine, at suitable points conveniently accessible to all persons employed at the mine, an adequate supply of wholesome drinking water.

* * * * *

(*Parts IV and V apply only to quarries*)

* * * * *

PART VI

NOTIFICATION AND INVESTIGATION OF ACCIDENTS AND DISEASES

Notification

116. (1) Where an accident occurs at a mine . . . which causes the death of, or serious bodily injury† to, a person employed at the mine . . . , notice of the accident, in such form‡ and accompanied by such particulars as may be specified by the Minister, shall forthwith be given by the responsible person† to the inspector for the district and to such person as may for the time being be nominated—

*No general regulations for this purpose have yet been made.

†As defined in Section 182 (1).

‡M. & Q. Form No. 206 (21 and 48). For notification purposes 'serious bodily injury' includes: Fractured skull, spine, pelvis, arm, forearm, thigh or leg; Dislocated shoulder, elbow, hip, knee or spine; Amputation of hand or foot, or substantial part of a hand or a foot; Loss of the sight of an eye; other serious bodily injury, e.g., internal haemorrhage, burns, asphyxia or other injury likely to endanger life, cause permanent incapacity for work or substantially impair efficiency.

- (a) in a case where there is an association or body representative of a majority of the total number of persons employed at the mine . . . , by that association or body;
- (b) in any other case, jointly by associations or bodies which are together representative of such a majority;

to receive on behalf of the persons so employed notices under this subsection.

(2) Where an accident causing serious bodily injury is notified under this section, and after notification thereof results in the death of the person injured, notice of the death shall, so soon as it comes to the knowledge of the responsible person, be given by him to the inspector for the district and the person nominated as aforesaid.

(3) Where an accident to which this section applies occurs to a person employed at a mine . . . and the owner of the mine . . . is not the actual employer of that person, the actual employer shall, if he fails to report the accident to the responsible person immediately, be guilty of an offence.

117. (1) If the Minister is of opinion that any special class of occurrences at mines . . . is of so dangerous a nature as to render it expedient that notice should be given under the last foregoing section in every case thereof, he may by order* extend the provisions of that section to occurrences of that class, whether death or serious bodily injury is thereby caused or not.

(2) In any proceedings taken under this Act in respect of a failure to give notice of an occurrence of any kind at a mine . . . , being proceedings which could not be taken apart from an order under this section, it shall be a defence for the person charged to prove that he was not aware of the occurrence and that he had taken all reasonable steps for having occurrences of that kind brought to his notice.

118. (1) The Minister may by order† apply (subject to such exceptions, adaptations and modifications, if any, as may be specified in the order) the provisions of section one hundred and sixteen of this Act to the contraction, by a person employed at a mine . . . , of any such disease as may be specified in the order.

(2) In any proceedings which, by virtue of an order under this section, are taken under this Act in respect of a failure to give notice of the contraction by a person employed at a mine . . . of a disease, it shall be a defence for the person charged to prove that he was not aware that the first-mentioned person had contracted the disease.

119. (1) Where a coroner holds an inquest on the body of a person whose death may have been caused by an accident at a mine . . . , the coroner shall adjourn the inquest unless an inspector or some other person on behalf of the Minister is present to watch the proceedings, and shall, at least four days before holding the adjourned inquest, give to the inspector for the district notice of the time and place of holding the adjourned inquest:

*See the Notification of Dangerous Occurrences Order, dated 22nd December, 1906, which remains in force under Section 191 (1) (c) (page 288). While this volume was in the press a further order (The Mines and Quarries (Notification of Dangerous Occurrences) Order, 1957—S.I. 1957, No. 1095) was made under this Section. It requires notification of certain occurrences arising out of the use of (a) electricity, (b) blasting materials or devices, and (c) breathing apparatus, smoke helmets, and other apparatus serving the same purpose.

†No order for this purpose has yet been made.

Provided that—

- (a) the coroner, before the adjournment, may take evidence to identify the body and may order the interment thereof; and
- (b) if the inquest relates to the death of not more than one person, the coroner shall not be bound to adjourn the inquest in pursuance of this section if, not less than twenty-four hours before it is held, he informed the inspector for the district of the time and place of the holding thereof.

(2) Where evidence is given at any such inquest at which an inspector is not present of any neglect as having caused or contributed to the accident, or of any defect at the mine . . . appearing to the coroner or jury to require a remedy, the coroner shall give to the inspector for the district notice of the neglect or defect.

120. Where there occurs at a mine . . . an accident or other occurrence (being in either case one of which notice is required by this Act to be given*), no person shall disturb the place where it occurred or tamper with anything thereat before—

- (a) the expiration of three clear days after notification of the accident or other occurrence in accordance with this Act; or
- (b) that place has been both visited by an inspector and inspected in exercise of the powers in that behalf conferred by the provisions of this Act relating to workmen's inspections;

whichever first occurs :

Provided that—

- (i) nothing in this section shall prohibit the doing of anything by or with the consent† of an inspector; and
- (ii) in any proceedings taken in respect of a contravention of this section consisting of the doing of any act, it shall be a defence to prove that the doing of that act was necessary for securing the safety of the mine . . . or persons thereat.

Investigations

121. Where there occurs at a mine . . . an accident or other occurrence (being in either case one of which notice is required by this Act to be given‡) the Minister may, at any time, direct an inspector to make a special report with respect thereto, and the Minister may cause any such report to be made public at such time and in such manner as he thinks fit.

122. (1) The Minister may, where he thinks it expedient so to do, direct a public inquiry to be held into an accident or other occurrence at a mine . . . (being in either case one of which notice is required by this Act to be given‡) and of its causes and circumstances.

*See Sections 116 to 118.

†Inspectors have issued consents relating to mines operated by the National Coal Board. These consents specify conditions under which the site of certain accidents may be disturbed without waiting for the expiry of the periods mentioned in paragraphs (a) and (b) of this Section.

‡See Sections 116 to 118.

(2) The provisions of the First Schedule to this Act shall have effect with respect to any such inquiry.

(3) Where the Minister directs a public inquiry to be held into such an accident or other occurrence as aforesaid in Scotland, being one causing the death of any person, no inquiry with regard to that death shall, unless the Lord Advocate otherwise directs, be held in pursuance of the Fatal Accidents Inquiry (Scotland) Act, 1895.

PART VII

WORKMEN'S INSPECTIONS

123. (1) For the purpose of enabling inspections to be carried out at a mine . . . on behalf of the persons employed thereat, a panel of persons each of whom has had not less than five years practical experience of mining . . . may be appointed for that mine . . . —

(a) in a case where there is an association or body representative of a majority of the total number of persons employed at the mine . . . , by that association or body;

(b) in any other case, jointly by associations or bodies which are together representative of such a majority.

(2) The owner of a mine . . . shall be under an obligation to permit such inspections to be carried out thereat by members of the panel appointed therefor under subsection (1) of this section as will enable every part of the mine . . . and the equipment thereof to be inspected once at least in every month by two of those members together (of whom one at least is employed at the mine . . .).

(3) Where there occurs at a mine . . . an accident or other occurrence (being in either case one of which notice is required by this Act to be given*), any two members of the panel appointed for the mine . . . under subsection (1) of this section (of whom one at least is employed at the mine . . .) may together inspect the place where the accident or other occurrence occurred and, so far as necessary for the purpose of ascertaining its cause, any other part of the mine . . . and any machinery, apparatus or other thing thereat, and may take samples of the atmosphere at that place and of any dust or water thereat,

(4) Nothing in subsection (2) or (3) of this section shall be construed as precluding the making, as respects a mine . . . , of an agreement between the owner thereof and the association or body (or, as the case may be, associations or bodies) by whom a panel therefor is appointed under subsection (1) of this section with respect to the carrying out, by members of that panel, of inspections at the mine . . . , so, however, that no such agreement shall operate so as in any way to abridge the rights conferred by the said subsections (2) and (3).

(5) On any occasion on which members of a panel appointed for a mine . . . under subsection (1) of this section carry out, by virtue of subsection (2) or (3) of this section or of any such agreement as is mentioned in subsection (4) thereof, an inspection at the mine . . . , they—

(a) shall be entitled to inspect any documents which by or by virtue of this Act are required to be kept at the office at the mine . . . or at such other place as may be approved by an inspector;

*See Sections 116 to 118.

(b) shall be entitled to be accompanied by advisers of theirs, but shall not be entitled to preclude from accompanying them any of the following persons, that is to say,—

(i) . . . the owner . . . and any person nominated by him, the manager thereof and any person nominated by him and any under-manager . . . ;

(ii) . . .

(6) On any occasion on which members of a panel appointed under subsection (1) of this section for a mine . . . are, by virtue of subsection (2) or (3) of this section or of any such agreement as is mentioned in subsection (4) thereof, carrying out an inspection at the mine . . . , it shall be the duty of all persons employed thereat to afford to those members such facilities and assistance with respect to matters or things to which the respective responsibilities of those persons extend as are requisite for the purpose of carrying out the inspection, and where the inspection is carried out by virtue of subsection (2) of this section or of any such agreement as is mentioned in subsection (4) thereof, it shall be the duty—

(a) . . . of the manager . . .

(b) . . .

if requested so to do by the said members, to furnish to them any information in his possession which relates to the nature or extent of any workings proposed to be carried on in the mine . . .

(7) Forthwith after members of a panel appointed under subsection (1) of this section for a mine . . . have, on any occasion, completed an inspection carried out thereat by virtue of subsection (2) or (3) of this section or of any such agreement as is mentioned in subsection (4) thereof, they shall make, in a book* to be provided for that purpose by the owner of the mine . . . , a full and accurate report of the matters ascertained as a result of the inspection and shall subscribe their signatures thereto.

(8) Forthwith after a report has, in pursuance of the last foregoing section, been made of matters ascertained as a result of an inspection carried out at a mine . . . , a true copy thereof shall be sent to the inspector for the district and another such copy shall be posted in some conspicuous position at the mine . . . and kept posted there for a period of twenty-four hours.

PART VIII

EMPLOYMENT OF WOMEN† AND YOUNG PERSONS‡

Prohibition of Employment below Ground

124. (1) No female shall be employed below ground at a mine.

(2) After such day as may be appointed by order‡ of the Minister in relation to mines of any class, no male young person who has not attained the age of sixteen shall be employed below ground in a mine of that class except for the purpose of receiving instruction of such description as may be prescribed.

*M. & Q. Form No. 216 (36).

†As defined in Section 182 (1).

‡Under the Mines (Employment of Young Persons) (Appointed Day) Order, 1957 (S.I. 1957, No. 1093) the appointed day was 1st July, 1957.

Hours of Work

125. (1) The hours worked and the intervals for meals and rest for every woman or young person employed above ground at a mine . . . shall conform to the following conditions, namely,—

- (a) the total hours worked, exclusive of intervals allowed for meals and rest, shall neither exceed nine in any day nor exceed forty-eight in any week and, except in the case of a male young person who has attained the age of sixteen, shall not exceed eight hours in any day unless the intervals allowed for meals and rest between spells amount to not less than one-and-a-half hours;
 - (b) a woman or young persons shall not be employed continuously for a spell of more than four-and-a-half hours without an interval of at least half-an-hour for a meal or rest, so, however, that where an interval of not less than ten minutes is allowed in the course of a spell, the spell may be increased to five hours.
- (2) . . .

126. (1) The period of employment of a woman employed at a mine . . . shall neither begin earlier than six o'clock in the morning nor end later than ten o'clock in the evening, or, on Saturday, two o'clock in the afternoon.

(2) The period of employment of a female young person employed at a mine . . . or of a male young person who has not attained the age of sixteen employed above ground at a mine . . . shall neither begin earlier than six o'clock in the morning nor end later than nine o'clock in the evening or, on Saturday, two o'clock in the afternoon.

(3) The period of employment of a male young person who has not attained the age of sixteen employed below ground at a mine shall neither begin earlier than six o'clock in the morning nor end later than ten o'clock in the evening or, on Saturday, two o'clock in the afternoon.

(4) In the case of a woman employed at a mine . . . and in the case of any such young person as is mentioned in subsection (2) or (3) of this section who is so employed, there shall be an interval of not less than twelve hours between successive periods of employment.

(5) No woman and no such young person as is mentioned in subsection (2) or (3) of this section shall be employed at a mine . . . on Sunday.

127. (1) Subject to the following provisions of this section and to the following provisions of this Part of this Act relating to special exceptions, the period of employment of a male young person who has attained the age of sixteen employed at a mine (whether above or below ground) . . . shall neither begin earlier than six o'clock in the morning nor end later than ten o'clock in the evening, so, however, that no such young person shall be so employed at any time on a Saturday after two o'clock in the afternoon or on a Sunday except in the carrying out of work of surveying, measuring, repair or maintenance, being work of a description which requires to be done at that time.

(2) In the case of any mine . . . , the responsible person*, if authorised so to do, may by notice posted at the mine . . . give either or both of the following directions, namely,—

*i.e., the manager (see Section 182 (1)).

- (a) a direction that the foregoing subsection shall, in relation to all such young persons as aforesaid employed at the mine . . . , have effect with the substitution, for the reference to six o'clock in the morning, of a reference to such earlier time (not being earlier than five o'clock in the morning) as may be specified in the notice;
- (b) a direction that that subsection shall, in relation to all such young persons as aforesaid employed at the mine . . . , have effect with the substitution, for the reference to ten o'clock in the evening, of a reference to such later time (not being later than eleven o'clock in the evening) as may be so specified:

Provided that where, in relation to a mine . . . , a direction is given under each of the foregoing paragraphs, the directions shall be void if their combined effect is to extend the period of employment of the young persons employed at the mine . . . by more than one hour.

Authority for the giving of directions under this subsection may be given—

- (i) in the case of all mines . . . or mines . . . of any class, by order* of the Minister;
- (ii) in the case of a particular mine . . . , by notice served by an inspector on the responsible person.

(3) In the case of any such young person as is mentioned in subsection (1) of this section who is employed at a mine . . . , there shall be an interval of not less than twelve hours between successive periods of employment.

(4) Where such a young person as is mentioned in subsection (1) of this section is employed at a mine . . . on a Saturday after two o'clock in the afternoon, he shall not be employed at the mine . . . after two o'clock in the afternoon on one of the days falling between the next following Sunday and the next following Saturday, and where such a young person is so employed on a Sunday he shall not be employed at the mine . . . at any time on one of the days falling between that day and the next following Saturday.

128. (1) It shall, in the case of every mine . . . , be the duty of the responsible person† to fix within the limits allowed by or by virtue of the foregoing provisions of this Part of this Act and to specify in a notice which shall be posted at the mine . . . in such form‡ as the Minister may specify—

(a) the period of employment for each day of the week for the women and young persons employed at the mine . . . whose hours worked are regulated by section one hundred and twenty-five of this Act;

(b) any intervals allowed for meals or rest to such women and young persons; and no such woman or young person shall be employed at the mine . . . otherwise than in accordance with the notice.

(2) Different periods of employment and different intervals may be fixed under this section for different classes of women and young persons employed at a mine . . . and for different days of the week.

*No order for this purpose has yet been made.

†i.e., the manager (see Section 182 (1)).

‡M. & Q. Form No. 208 (49).

(3) A change in the periods or intervals fixed under this section with respect to women or young persons employed at a mine . . . shall not be made until the responsible person has served on the inspector for the district, and posted in some conspicuous position at the mine . . . , notice of his intention to make the change, and shall not be made oftener than once in three months, unless for special cause allowed in writing by the inspector for the district.

Special Exceptions

129. (1) As respects male young persons who have attained the age of sixteen and are employed (whether above or below ground) at mines . . . in the counties of Durham, Northumberland and Warwick, the following provisions shall have effect until such day (being not later than five years after the commencement of this Act*) as the Minister may by order† appoint in relation to those counties, namely,—

(a) subsection (1) of section one hundred and twenty-seven of this Act (save in so far as it relates to employment on Saturday after two o'clock in the afternoon or on Sunday) shall not apply;

(b) such a male young person as aforesaid may be employed at a mine on a Sunday after ten o'clock in the evening provided that he has not been employed thereat at any time during the period of thirty-six hours ending immediately before he begins to be employed on that Sunday;

and the reference in subsection (1) of the last foregoing section to the foregoing provisions of this Part of this Act shall be construed accordingly.

(2) Different days may be appointed under the foregoing subsection in relation to the respective counties of Durham, Northumberland and Warwick.

130. Where on any occasion a male young person who has attained the age of sixteen remains, after the time at which his period of employment ends, below ground in a mine for the purpose of rendering assistance in the event of accident, meeting any danger (whether actual or apprehended) or dealing with any emergency or with work uncompleted through unusual and unforeseen circumstances which requires to be dealt with without interruption in order to avoid serious interference with ordinary work in the mine—

(a) there shall be deemed not to be a contravention of the foregoing provisions of this Part of this Act in relation to him; but

(b) he shall not, after his employment for that purpose has ended on that occasion, be again employed at the mine until not less than thirteen hours have elapsed since he returned to the surface after his employment so ended.

Miscellaneous Provisions

131. (1) It shall, in the case of every mine . . . , be the duty of the responsible person‡ to keep at the office at the mine . . . , or at such other place as may be approved by an inspector, a register in such form§ as may be specified by the

*i.e., not later than 1st January, 1962.

†No order for this purpose has yet been made.

‡i.e., the manager (see Section 182 (1)).

§M. & Q. Form No. 218 (20 and 155).

Minister and to enter in that register in such form and manner as may be so specified the name, date of birth, residence and date of first employment at the mine . . . of all women and young persons employed thereat, indicating, in the case of male young persons . . . , which of them are employed below ground thereat.

(2) It shall, in the case of every mine . . . , be the duty of the responsible person to produce (if requested so to do) any register kept by him in pursuance of this section to an officer of the local education authority (or, in Scotland, the education authority) within whose area the mine . . . is situate.

(3) Before a male young person is first employed below ground in a mine his employer (if other than the owner of the mine) shall inform the manager of the mine or some other person appointed in that behalf by the manager, that the young person is to be so employed.

132. (1) For the purposes of this Part of this Act a person employed below ground in a mine shall be deemed to be so employed during the period between the time at which he is required to attend for the purpose of going below ground and the time at which he returns to the surface.

(2) There shall be deemed to be no contravention of any provision of sections one hundred and twenty-six to one hundred and twenty-nine of this Act in relation to a person employed below ground on a shift in a mine . . . , if there would be no contravention of that provision in relation to him if he left the surface at the same time as the last workman on that shift and returned to the surface at the same time as the first workman on that shift.

(3) This Part of this Act (except subsection (1) of section one hundred and twenty-four) shall not apply to persons holding responsible positions of management or acting as assistants to persons holding such positions or to persons engaged in clerical work above ground, being in each case persons who are not ordinarily engaged in manual work, to persons employed in, or in connection with, the sale or supply of meals or refreshments or to persons employed for the purposes of the treatment of the sick or injured.

(4) Where—

(a) . . .

(b) a male young person (whether he has attained the age of sixteen or not) is employed below ground at a mine at a time at which his employment would be unlawful apart from subsection (2) of this section;

his employment at the time mentioned . . . shall be deemed not to be in contravention of the Employment of Women, Young Persons, and Children Act, 1920.

(5) Save as provided by the last foregoing subsection, the provisions of this Part of this Act shall be in addition to, and not in derogation of, the provisions of any other Act restricting the employment of women and young persons.

PART IX

RECORDS, RETURNS AND INFORMATION

133. (1) Every book which, in pursuance of this Act or regulations, is provided by the owner of a mine . . . for the purpose of the entry therein of any report, record or other item of information shall be in such form as the Minister may direct.

(2) Every entry made in any such book as aforesaid or a copy of that entry shall be preserved until the expiration of three years after the date on which it was made or such other period (whether longer or shorter) as may be prescribed for an entry of any class and, until no longer required to be preserved, shall be kept at the office at the mine . . . to which it relates or at such other place as may be approved by an inspector and be open to inspection by, or by a person authorised in that behalf in writing by, any person employed at that mine . . .

134. Where an appointment is made—

(a) by the manager of a mine in pursuance of regulations having effect by virtue of subsection (1) of section twelve of this Act, or in pursuance of subsection (1) of section thirteen thereof or regulations having effect by virtue of subsection (2) of the said section thirteen, or in pursuance of section forty-two of this Act; or

(b) . . .

the person making the appointment shall forthwith make a record thereof; and a record made in pursuance of this section shall be preserved until the expiration of twelve months after the ending of the appointment evidenced thereby, and, until no longer required to be preserved, shall be kept at the office at the mine . . . to which that appointment is referable or at such other place as may be approved by an inspector and be open to inspection by, or by a person authorised in that behalf in writing by, any person employed at that mine . . .

135. At all times at which persons are employed at a mine . . . there shall be provided thereat or near thereto suitable covered accommodation wherein shall be provided a copy of this Act and of every such instrument as the following which is in force with respect to the mine . . . , namely, orders made under this Act, regulations, transport rules, support rules, any notice served under or by virtue of this Act by an inspector on the responsible person* and any such rule regulating the conduct of persons as is mentioned in paragraph (b) of section eighty-nine of this Act; and all persons employed at the mine . . . shall be entitled to have access to that accommodation for the purpose of inspecting the documents hereby required to be provided therein

136. (1) At all times at which persons are employed at a mine . . . there shall be kept posted thereat—

(a) a notice of the name of the mine . . . , the name and address of the owner thereof and the name or names of the manager . . . thereof;

(b) a notice of the name and address of the inspector for the district; and

(c) a notice specifying the situation of the accommodation provided in pursuance of the last foregoing section.

(2) Where, in the case of a mine, . . .

(a) regulations affecting it are made; or

(b) a notice is served under or by virtue of this Act by an inspector on the responsible person;*

*i.e., the manager (see Section 182 (1)).

notice of the making of the regulations or, as the case may be, of the service of the notice (specifying the regulations or, as the case may be, indicating the general nature of the notice) shall be kept posted at the mine . . . at all times during the period of six months next following the making or service of the regulations or notice at which persons are employed at the mine or quarry.

(3) All notices required by this section to be posted at a mine . . . shall be posted in such characters and in such positions as to be easily seen and read by the persons employed thereat, and if a form* is specified by the Minister for any such notice, it shall be posted in that form.

137. The Minister may himself prepare and designate for the purpose of the issue thereof in accordance with the following provisions of this section to persons of any class employed at mines . . . , a book† containing such information with respect to so much of this Act, orders made thereunder and regulations as in his opinion affects persons of that class, and such other information (if any) as it appears to him requisite or expedient to bring to the notice of such persons, or may approve for the purpose aforesaid any such book prepared by or on behalf of an owner of mines . . . , and, where a book is for the time being designated or approved by virtue of this section for the purpose of the issue thereof to persons of any class, it shall, in the case of every mine . . . , be the duty of the responsible person—‡

(a) to give (unless he has previously done so) a copy of that book to every person on any occasion on which, after the designation or approval of the book, he begins to be employed at that mine . . . as a person of that class;

(b) to give, as soon as it is practicable to do so, a copy of that book to every person who, at the time at which it is designated or approved, is employed at that mine . . . as a person of that class.

138. (1) It shall be the duty of every owner of mines . . . if directed so to do by the Minister, to furnish to him, within such period and in such form and manner as may be specified in the directions, such returns and statistics relating to the mines . . . which he owns, and such other information (if any) relating thereto, as may be so specified.

(2) No returns, statistics or other information obtained under the foregoing subsection shall, without the consent in writing of the person carrying on the undertaking to which the returns, statistics or other information relate, be disclosed except—

(a) with the consent of the Minister, to a government department for the purposes of the exercise by them of any of their functions; or

(b) in the form of a summary of similar returns, statistics or other information furnished by a number of owners of mines . . . , being a summary so framed as not enable particulars relating to the undertaking of a particular person to be ascertained therefrom; or

*M. & Q. Form No. 204 (as regards notices under subsection (1)).

†The following books will be designated for this purpose and will be on sale at H.M. Stationery Office:—Book 1, underground workers; Book 2, surface workers; Book 3, winding enginemen, banksmen and onsetters; Book 4, mechanics and electricians; and Book 5, deputies and shot firers.

‡i.e., the manager (see Section 182 (1)).

- (c) for the purposes of any proceedings for an offence under this Act or any report of any such proceedings.

139. (1) In any of the following events, namely,—

- (a) the beginning of operations for the purpose of opening a mine or a seam or vein therein, the abandonment of a mine or a seam or vein therein, the expiration of the period of two months beginning with the day on which a mine or a seam or vein therein was last worked for the purpose of getting minerals or products thereof and the resumption of the working of a mine or a seam or vein therein after the abandonment thereof or after the expiration of such a period as aforesaid; and
- (b) the beginning of operations for the purpose of driving a new shaft or new outlet of a mine, the abandonment of the use of a shaft or outlet of a mine, the expiration of the period of two months beginning with the day on which a shaft or outlet of a mine was last used and the resumption of the use of a shaft or outlet of a mine after the abandonment thereof or after the expiration of such a period as aforesaid;

the owner of the mine in question shall, within two weeks after the happening of that event, give notice* thereof to the inspector for the district:

Provided that, where a mine or a seam or vein therein is abandoned after the day on which it was last worked for the purpose of getting minerals or products thereof but before the expiration of the period of two months beginning with that day, it shall not be necessary to give notice of the expiration of that period, and where the use of a shaft or outlet of a mine is abandoned after the day on which it was last used but before the expiration of the period of two months beginning with that day, it shall not be necessary to give notice of the expiration of that period.

(2) . . .

140. (1) Where a change occurs—

- (a) in the ownership of a mine . . . ; or
- (b) in the name of a mine . . . ;

the owner shall, within two weeks after the change occurs, give to the inspector for the district a notice* stating the particulars of the change.

(2) For the purposes of this section a name shall be deemed to be changed if the spelling thereof is altered.

PART X

REGULATIONS

141. (1) The Minister may make regulations for any purpose for which provision is by this Act required or authorised to be made by regulations and for prescribing anything which by this Act is required or authorised to be prescribed and generally for making provision with respect to any matter or thing with respect to which it appears to the Minister requisite or expedient to make provision for the purpose of preventing the occurrence of accidents at

*M. & Q. Form No. 212.

mines . . . , securing the safety, health or welfare of persons employed at mines . . . or maintaining proper discipline amongst them, for securing the proper care and treatment of animals employed at mines . . . and otherwise for carrying this Act into effect; and it shall be the duty of the Minister to exercise the power conferred by this subsection as regards any matter the making of provision for which is by this Act required to be made by regulations.

(2) No enactment contained in this Act making provision with respect to any matter or thing shall be taken as operating to preclude the making by regulations (consistently with that enactment) of provision with respect to that matter or thing.

(3) Any enactment contained in this Act authorising the making of provision by regulations without limitation as to the mines . . . with respect to which the provision may be made shall be construed as authorising the making of provision extending to all mines . . . , any class of mines . . . or a particular mine . . . ; any enactment contained in this Act authorising the making of provision by regulations with respect to mines of a specified class shall be construed as authorising the making of provision extending either to all mines of that class, to mines within any sub-division of that class or to a particular mine of that class; and any enactment contained in this Act authorising the making of provision by regulations with respect to mines other than of a specified class shall be construed as authorising the making of provision extending either to all mines other than of the specified class, to any class of mines other than of the specified class or to a particular mine other than of the specified class.

(4) Regulations may—

- (a) make different provision with respect to different classes of mines . . . or different sub-divisions of a class of mines . . . and with respect to different parts of a mine . . . and, in so far as they relate to persons or to things other than mines . . . , make different provision with respect to different classes of persons and of such things and with respect to the same class of persons or of such things in different circumstances;
- (b) grant exemptions from any of the provisions thereof or provide for the granting of such exemptions by the Minister or an inspector;
- (c) make provision for any incidental or supplementary matters for which the Minister thinks it expedient for the purposes of the regulations to provide.

(5) In this Act (save where, in the provisions* thereof relating to the re-enactment or continuance in force of instruments having effect under enactments repealed by this Act, the context otherwise requires) the expression 'regulations' means regulations made under this section, the expression 'prescribed' means prescribed by regulations and the expressions 'general regulations' and 'special regulations' mean respectively regulations other than those applicable to a particular mine . . . only and regulations applicable to a particular mine . . . only.

142. The provisions of Part I of the Second Schedule to this Act shall have effect with respect to the procedure for making general regulations, the provisions of Part II of that Schedule shall have effect with respect to the procedure for making special regulations and the provisions of Part III of that Schedule shall have effect with respect to any inquiry ordered to be held under the said Part I or the said Part II.

*See Sections 190 and 191.

143. (1) General regulations may—

- (a) be varied or revoked by subsequent general regulations;
- (b) be rendered wholly or partly inapplicable, or varied in their application, to a particular mine . . . by special regulations applicable thereto.

(2) Special regulations may be varied or revoked by subsequent special regulations and may be revoked by general regulations, and a provision of general regulations which revokes special regulations shall be deemed not to be a special regulation.

PART XI

INSPECTORS

144. (1) The Minister may appoint such inspectors (under whatever title he may from time to time determine) as he thinks necessary for the execution of this Act, and assign to them their duties, and may appoint a chief inspector with an office in London, and may determine the cases and manner in which inspectors, or any of them, are to execute and perform the powers and duties of inspectors under this Act, and may remove such inspectors.

(2) It shall be the duty of the Minister to satisfy himself, with respect to any person whom he proposes to appoint to be an inspector, that that person will have no such interest (whether financial or of any other kind) as is likely to affect him in the exercise and performance of his powers and duties as an inspector.

(3) In the assignment of inspectors for duty in Wales or Monmouthshire, among candidates otherwise equally qualified, persons having a knowledge of the Welsh language shall be preferred.

(4) The Minister may pay to inspectors appointed under this section such salaries as he may determine.

(5) An inspector shall not be liable to serve on any jury.

(6) Such annual report of the proceedings of the inspectors as the Minister directs shall be laid before both Houses of Parliament.

145. (1) An inspector shall, for the purpose of the execution of this Act, have power to do all or any of the following things, that is to say:

- (a) at any time (whether by day or by night) to enter a mine . . . or central rescue station and to inspect the whole or any part thereof, anything thereat and any animals employed for the purposes thereof;
- (b) to make such examination and inquiry as may be necessary—

(i) to ascertain whether, so far as regards a mine . . . or central rescue station or persons or animals employed thereat, the following are complied with, namely, the provisions of this Act, orders made thereunder and regulations, any direction, prohibition, restriction or requirement given or imposed by a notice served under or by virtue of this Act by an inspector and any condition attached to any exemption, consent, approval or authority granted or given under or by virtue of this Act by the Minister or an inspector; or

(ii) to ascertain any matter appearing to the inspector to affect or relate to the safety or health of persons employed at a mine . . .

or central rescue station or the care or treatment of animals employed thereat and in particular (but without prejudice to the generality of the foregoing words) the causes and circumstances of any accident or other occurrence at a mine or quarry, being in either case one of which notice is required by this Act to be given;*

(c) on entering any premises, to take with him a constable if he has reasonable cause to apprehend any serious obstruction in the exercise of the powers conferred on him by this subsection or, for the purpose of any examination or inquiry relating to the care or treatment of animals, a duly qualified veterinary surgeon;

(d) for the purpose of any examination or inquiry under the foregoing provisions of this subsection—

(i) to require any person whom he finds at a mine, . . . or central rescue station, or whom he has reasonable cause to believe to be, or to have within the preceding two months been, employed at a mine, . . . or central rescue station, to answer, in the absence of persons other than a person nominated by him to be present and any persons whom the inspector may allow to be present, such questions as the inspector thinks fit to ask, so however, that no answer given by a person in pursuance of a requirement imposed under this subparagraph shall be admissible in evidence against him in any proceedings;

(ii) to take samples of any articles or substances found at a mine . . . and . . . of the atmosphere therein; and

(iii) to take possession of any machinery, apparatus or other article whatsoever at a mine . . . which appears to him to have caused, or to be likely to cause, danger to safety or health and cause it to be dismantled or subjected to any process or test, notwithstanding that it is thereby damaged or destroyed;

(e) to require the production of, and to inspect,—

(i) any registers, books, plans or other documents which by, or by virtue of, this Act are required to be kept; and

(ii) any other documents, being documents which are in the possession or under the control of the owner or manager of a mine . . . and are relevant for the purposes of an examination or inquiry under the foregoing provisions of this section;

(f) to require the manager of a mine to mark on any plan of workings in the mine produced in compliance with a requirement imposed under the last foregoing paragraph the state, as at the time of the imposition of the requirement, of those workings or of such of them as may be specified in the requirement;

(g) to require any person having responsibilities in relation to a mine . . . (whether or not the owner or the manager or any other person employed thereat) to give him such facilities and assistance with respect to any matters or things to which the responsibilities of that person extend as are necessary for the purpose of enabling the inspector to exercise any of the powers conferred on him by this subsection;

*See Sections 116 to 118.

(h) to exercise such other powers as may be necessary for carrying this Act into effect.

(2) A person who—

(a) fails to comply with any requirement imposed by an inspector under this section; or

(b) prevents, or attempts to prevent, any other person from appearing before an inspector or from answering any question to which an inspector may, by virtue of the foregoing subsection, require an answer; or

(c) without permission granted by an inspector, removes from a mine . . . , or conceals or tampers with, any machinery, apparatus or other article of which possession has been taken by an inspector under this section; or

(d) obstructs an inspector in the exercise or performance of his powers or duties;

shall be guilty of an offence.

146. (1) If an inspector is of opinion that a mine . . . or any part thereof or any matter, thing or practice at a mine . . . or connected with the control or management of a mine . . . is or is likely shortly to become dangerous to the safety or health of the persons employed at the mine . . . or any of them, he may serve on the responsible person* a notice stating that he is of that opinion and giving particulars of the reason why he is of that opinion, and imposing upon the responsible person such prohibitions or restrictions or requirements (of whatsoever kind) as appear to the inspector to be necessary for the purpose of safeguarding the safety or health of the persons employed at the mine . . .

(2) Nothing in this section shall authorise the service by an inspector of a notice . . . in a case in which the service by an inspector of a notice on the manager of that mine is authorised by section sixty-eight or seventy-eight of this Act.

PART XII

GRANT, CANCELLATION AND SUSPENSION OF CERTIFICATES

147. (1) The first-class and second-class certificates of competency referred to in the foregoing provisions of this Act shall be granted by the Minister on the recommendation of the Mining Qualifications Board constituted under the next following section.

(2) If any certificate which by or by virtue of this Act is to be granted by the Minister on the recommendation of the said Board is defaced, lost or destroyed, the Minister may, on payment of such fee (if any) as he may, with the approval of the Treasury, determine and on such terms as to evidence as he thinks fit (and, in a case in which the certificate is defaced, on the surrender thereof) issue a duplicate of the certificate.

148. (1) There shall be a Board, to be called the Mining Qualifications Board (in this and the next following section referred to as 'the Board') which shall have the duty of ascertaining the fitness of candidates for such certificates as by or by virtue of this Act are to be granted on their recommendation.

*i.e., the manager (see Section 182 (1)).

(2) The Board shall consist of a chairman and not less than seven nor more than ten other members* appointed by the Minister, who shall include persons appearing to him to have experience respectively of mining, education and administration :

Provided that during any period during which the holding of a certificate granted on the recommendation of the Board is a qualification prescribed by regulations having effect by virtue of Part IV† of this Act, the maximum number of the members of the Board, other than the chairman, shall be twelve instead of ten, and of the members of the Board two shall be persons appearing to the Minister to have experience in quarrying.

(3) Every member of the Board shall hold and vacate his office in accordance with the terms of his appointment and shall, on ceasing to be a member, be eligible for re-appointment :

Provided that—

(a) no appointment or re-appointment of a member of the Board shall be for a term exceeding five years;

(b) a member of the Board may at any time by notice in writing to the Minister resign his office.

(4) The Minister may pay to the chairman of the Board such remuneration and to all the members of the Board such allowances as he may, with the approval of the Treasury, determine.

(5) The Board may act notwithstanding a vacancy amongst the members thereof.

(6) The procedure of the Board and the quorum thereof shall be such as may be specified in rules made by them, but rules under this subsection shall be of no effect unless they are approved by the Minister.

(7) The expenses of the Board (including any remuneration or allowances payable to examiners appointed by them) shall be defrayed by the Minister.

149. (1) The Board shall make rules specifying the qualifications required of persons in order for them to be recommended for the grant of certificates‡ which by or by virtue of this Act are to be granted by the Minister on the Board's recommendation and the manner in which the possession of such qualifications is to be ascertained and (where the rules provide for the ascertainment of the possession of qualifications by means of an examination held by the Board) specifying particulars of the examination.

*The Mining Qualifications Board consists at present of a chairman and eight members. It is not intended to appoint the maximum number of members, unless regulations are made under Section 4 (4) about the qualifications of managers of 'miscellaneous' mines (i.e., other than mines of coal, stratified ironstone, shale and fireclay), in which case any additional members would probably be persons having experience of managing or working in such mines.

†Part IV of the Act applies only to quarries.

‡The certificates to be granted on the Board's recommendation are at present as follows: First-class and Second-class Certificates of Competency; Surveyor's Certificate; Deputy's Certificate; Shot Firer's Certificate; Mechanical Engineer's Certificate; Mechanics' Certificates, Classes I and II; Electrical Engineer's Certificate; and Electricians' Certificates, Classes I and II. In addition there are limited Certificates of Competency (First-class and Second-class) for mines of stratified ironstone.

The respective rules applying to them will be found in Part C of this volume.

(2) The said rules may not only specify subjects in which proficiency is required and the degree of proficiency required in each subject, but may also require a person who seeks the grant of any such certificate as aforesaid—

- (a) to have attained, before entering his name for any such examination as aforesaid or before being recommended for the grant of the certificate, such age as may be specified in the rules;
- (b) to have such practical experience of such matters as may be so specified;
- (c) to have attended such courses of instruction as may be so specified;
- (d) to be of good character.

(3) The said rules may provide for the granting of exemptions from any provisions thereof relating to the undergoing of examinations, the possession of practical experience and the attendance at courses of instruction in such cases as may be specified in the rules.

(4) Examinations the holding of which is provided for by rules under this section shall be held at such times and places as the Board may determine and shall be conducted in accordance with rules made by them; and the Board may (subject to the approval of the Minister as to number) appoint examiners for the purposes of such examinations and pay them such remuneration and allowances as the Board may, with the approval of the Minister and the Treasury, determine.

(5) Rules under this section shall be of no effect unless they are approved by the Minister.

(6) There shall be payable to the Board by persons who seek the grant of such certificates as are mentioned in subsection (1) of this section such fees* as may be specified in an order made by the Minister with the approval of the Treasury, and any fees received by the Board under this subsection shall be paid by them to the Minister.

150. (1) On the conviction of an offence under this Act of the holder of a certificate granted by the Minister under or by virtue of this Act, the court by which he is convicted may, on an application for that purpose made on behalf of the Minister, cancel or suspend the certificate in addition to or instead of imposing any other penalty to which the person convicted may be liable if, having regard to the nature of the offence and the circumstances in which it was committed, the court is of opinion that that person is unfit to continue to hold the certificate:

Provided that the court shall not exercise the power conferred by this subsection unless—

- (a) notice of intention to make an application thereunder has been served on the person convicted at the same time as the service or execution of the summons or warrant issued in pursuance of the information charging him with the offence of which he is convicted; and
- (b) the said person has, on pleading to the charge, been given an opportunity to elect, but has not elected, to have the question of the cancellation or suspension of his certificate inquired into under subsection (3) of this section.

*Lists of fees are given in Part C of this volume.

(2) Where, under the foregoing subsection, a court cancels or suspends a certificate held by a person, he shall have the same right of appeal as if the cancellation or suspension were a sentence passed by the court on his conviction.

(3) The Minister may, in the case of a person who is the holder of any such certificate as aforesaid with respect to whom a representation is made to the Minister by an inspector or otherwise that that person is, by reason of incompetence or gross negligence or misconduct in the performance of duties of his with respect to a mine or quarry, unfit to continue to hold the certificate, and shall, in the case of a person who is the holder of such a certificate and has made an election under paragraph (b) of the proviso to subsection (1) of this section, cause inquiry to be made into the question whether or not he is fit to continue to hold the certificate by a tribunal which shall have power to cancel or suspend the certificate if it finds that by reason aforesaid or, as the case may be, that having regard to the offence and the circumstances in which it was committed, he is unfit to continue to hold the certificate.

(4) The provisions of Part I of the Third Schedule to this Act shall have effect with respect to the constitution and procedure of the tribunal holding an inquiry under the last foregoing subsection and with respect to the holding of the inquiry.

(5) Where, under subsection (1) of this section, an application is made to a court for the cancellation or suspension of a certificate and the holder does not elect under paragraph (b) of the proviso to that subsection to have the question of the cancellation or suspension inquired into under subsection (3) of this section, no inquiry into his conduct shall be held by a tribunal under this section on the same grounds as those considered by the court; and where an inquiry is held by a tribunal under this section into the conduct of the holder of a certificate, no application to a court for the cancellation or suspension of the certificate shall be made under subsection (1) of this section on the same grounds as those considered at the inquiry.

(6) The Minister may at any time, if it is shown to him to be just so to do, restore a certificate cancelled under this section or shorten the period for which a certificate is suspended thereunder.

(7) A certificate suspended under this section shall, during the period of suspension, be of no effect.

(8) The provisions of Part II of the Third Schedule to this Act shall have effect with respect to the delivery up of a certificate to a court or tribunal and with respect to the subsequent proceedings with respect to a certificate so delivered up, and the provisions of Part III of that Schedule shall have effect for the purposes of the application to Scotland of Parts I and II thereof.

(9) This section shall in its application to Scotland have effect as if in paragraph (a) of the proviso to subsection (1) for the words 'or execution of the summons or warrant issued in pursuance of the information' there were substituted the words 'of the complaint or indictment'.

PART XIII

FENCING OF ABANDONED AND DISUSED MINES . . .

151. (1) It shall be the duty of the owner* of every abandoned mine and of every mine which, notwithstanding that it has not been abandoned, has

*See definition in Section 181.

not been worked for a period of twelve months to secure that the surface entrance to every shaft or outlet thereof is provided with an efficient enclosure, barrier, plug or other device so designed and constructed as to prevent any person from accidentally falling down the shaft or from accidentally entering the outlet and that every device so provided is properly maintained:

. . .

(2) For the purposes of Part III of the Public Health Act, 1936, each of the following shall be deemed to be a statutory nuisance, that is to say:

(a) a shaft or outlet of an abandoned mine . . . or of a mine . . . which, notwithstanding that it has not been abandoned, has not been worked for a period of twelve months, being a shaft or outlet the surface entrance to which is not provided with a properly maintained device such as is mentioned in that subsection;

(b) . . .

(c) . . .

(3) Any expenses incurred, by reason of the operation of Part III of the Public Health Act, 1936, by a person other than the owner (as defined for the purposes of this Act) of a mine . . . for the purpose of abating, or preventing the recurrence of, a nuisance under the last foregoing subsection or in reimbursing a local authority in respect of the abatement, or prevention of the recurrence, of such a nuisance shall, subject to any agreement to the contrary, be recoverable by that person from the owner (as so defined) of the mine . . .

(4) In the application of this section to the administrative county of London, for references to Part III of the Public Health Act, 1936, and to a statutory nuisance there shall be respectively substituted references to section two hundred and eighty-two of, and the Fifth Schedule to, the Public Health (London) Act, 1936, and to a nuisance which may be dealt with summarily under that Act.

(5) In the application of this section to Scotland, for references to Part III of the Public Health Act, 1936, to a statutory nuisance and to the abatement thereof, there shall be respectively substituted references to Part II of the Public Health (Scotland) Act, 1897, to such a nuisance as is mentioned in paragraph (1) of section sixteen of that Act and to the removal thereof.

PART XIV*

OFFENCES, PENALTIES AND LEGAL PROCEEDINGS

152. (1) In the event of a contravention†, in relation to a mine, of—

- (a) a provision of this Act, of an order made thereunder or of regulations, not being a provision which expressly provides that a person is to be guilty of an offence;‡ or
- (b) a direction, prohibition, restriction or requirement given or imposed by a notice served under or by virtue of this Act by an inspector; or

*See also Section 187 (1).

†A 'contravention' includes a failure to comply (see definition in Section 182 (1)).

‡A list of provisions which expressly provide that a person is to be guilty of an offence is given in Appendix 1.

- (c) a condition attached to an exemption, consent, approval or authority granted or given under or by virtue of this Act by the Minister or an inspector;

each of the following persons shall, subject to the following provisions of this Act, be guilty of an offence, namely, the owner of the mine, any person to whom written instructions have been given by the owner in pursuance of section one of this Act specifying as, or including amongst, the matters with respect to which that person is charged with securing the fulfilment in relation to the mine of statutory responsibilities of the owner, matters of the class to which the provision, direction, prohibition, restriction, requirement or condition relates, the manager of the mine, any person who is for the time being treated for the purposes of this Act as the manager, every under-manager of the mine and any person who is for the time being treated for the purposes of this Act as an under-manager thereof.

(2) . . .

(3) In the event of a contravention, in relation to a mine, by a person other than one mentioned in subsection (1) of this section, of such a provision as is mentioned in paragraph (a) of that subsection, being a provision which expressly imposes on that person or on persons of a class to which he belongs a duty or requirement or expressly prohibits him or persons of a class to which he belongs or all persons from doing a specified act, the person who contravened that provision, as well as the persons mentioned in the said subsection (1), shall be guilty of an offence, . . .

(4) Neither the manager of a mine as such, . . . nor a person who is for the time being treated for the purposes of this Act as the manager of a mine . . . , nor an under-manager of a mine, nor a person who is for the time being treated for the purposes of this Act as such an under-manager shall, by virtue of subsection (1) or (2) of this section, be guilty of an offence by reason of a contravention by the owner of the mine . . . of—

- (a) any provision of this Act, of an order made thereunder or of regulations, being a provision which expressly imposes on the owner of the mine . . . a duty or requirement or a prohibition; or
- (b) any prohibition, restriction or requirement which, by virtue of a notice served under or by virtue of this Act by an inspector, is expressly imposed on the owner of the mine . . . ;

or of a contravention of section three or one hundred and one of this Act.

153. Without prejudice to the operation—

- (a) as respects England and Wales, of section eight of the Accessories and Abettors Act, 1861, and section thirty-five of the Magistrates' Courts Act, 1952; and
- (b) as respects Scotland, of section sixty-one of the Criminal Procedure (Scotland) Act, 1887, and section two of the Summary Jurisdiction (Scotland) Act, 1954:

any person who induces or procures, or consents to or connives at, the commission of an offence under this Act, shall be guilty of an offence.

154. (1) If any persons are employed at a mine . . . otherwise than in accordance with the provisions of this Act, orders made thereunder and regulations, there shall be deemed to be a separate contravention in respect of each person so employed.

(2) If a person acts as manager of a mine in contravention of the provisions of subsection (1) of section five of this Act, of any condition attached to an approval granted under that subsection or of a direction given by a notice served under subsection (2) of that section, there shall be deemed to be a separate contravention in relation to each mine as manager of which he acts.

155. (1) A person guilty of an offence under this Act for which no express penalty is provided* shall be liable—

(a) if he is the owner of a mine . . . , a person to whom instructions have been given by the owner of a mine . . . in pursuance of section one of this Act, the manager of a mine . . . , a person who is for the time being treated for the purposes of this Act as the manager of a mine . . . an under-manager of a mine, a person who is for the time being treated for the purposes of this Act as such an under-manager or the surveyor for a mine, to a fine not exceeding two hundred pounds; and

(b) if not, to a fine not exceeding twenty pounds;

and, if the contravention in respect of which he was convicted is continued after the conviction, he shall be guilty of a further offence and liable, in respect thereof, to a fine not exceeding five pounds for each day on which the contravention is so continued.

(2) Where the court by which a person is convicted of any such offence as aforesaid is satisfied that the contravention in respect of which he is convicted—

(a) was likely to cause the death of, or serious bodily injury† to, a person employed at the mine . . . in relation to which the contravention occurred or a dangerous accident; or

(b) was likely to endanger the safety of any such person;

the court may impose upon the person convicted (either in addition to, or in substitution for, a fine) imprisonment for a term not exceeding three months.

156. In any proceedings under this Act which, by virtue of subsection (1) . . . of section one hundred and fifty-two of this Act, are taken against a person in respect of the contravention by a person other than himself of—

(a) a provision of the Act, of an order made thereunder or of regulations, being a provision which expressly imposes on that other person or on persons of a class to which, at the time of the contravention, he belonged, a duty or requirement or expressly prohibits him or persons of such a class or all persons from doing a specified act; or

(b) a prohibition, restriction or requirement which by virtue of a notice served under or by virtue of this Act by an inspector is expressly imposed on that other person;

*Express penalties are provided in subsection (2) of this Section and in Sections 160, 161 and 162.

†As defined in Section 182 (1).

it shall be a defence for the person charged to prove that he used all due diligence to secure compliance with the provision, prohibition, restriction or requirement, as the case may be.

157. It shall be a defence in any legal proceedings to recover damages and in any prosecution, in so far as the proceedings or prosecution are or is based on an allegation of a contravention, in relation to a mine . . . , of—

- (a) a provision of this Act, of an order made thereunder or of regulations (not being a provision which expressly provides that a person is to be guilty of an offence); or
- (b) a direction, prohibition, restriction, or requirement given or imposed by a notice served under or by virtue of this Act by an inspector; or
- (c) a condition attached to an exemption, consent, approval or authority granted or given under or by virtue of this Act by the Minister or an inspector;

to prove that it was impracticable to avoid or prevent the contravention.

158. (1) In any proceedings which, by virtue of subsection (1) of section one hundred and fifty-two of this Act are taken, in respect of such a contravention as is mentioned in that subsection against an under-manager of a mine acting as such, being an under-manager whose jurisdiction is limited to part only of the mine, it shall be a defence for him to prove that the contravention did not take place in, or in relation to, the part of the mine to which his jurisdiction was limited and that no act or omission of his caused or contributed to the contravention.

(2) The foregoing subsection shall apply to a person who is for the time being treated for the purposes of this Act as an under-manager of a mine, being a person whose jurisdiction is limited to part only of the mine, as it applies to an under-manager whose jurisdiction is so limited.

159. For the removal of doubts it is hereby declared that the owner of a mine . . . is not absolved from liability to pay damages in respect of a contravention, in relation to the mine . . . , by a person employed by him of—

- (a) a provision of this Act, of an order made thereunder or of regulations; or
- (b) a prohibition, restriction or requirement imposed by a notice served under or by virtue of this Act by an inspector;

by reason only that the provision contravened was one which expressly imposed on that person or on persons of a class to which, at the time of the contravention, he belonged, a duty or requirement or expressly prohibited that person, or persons of such a class or all persons from doing a specified act or, as the case may be, that the prohibition, restriction or requirement was expressly imposed on that person or that that person was, in pursuance of this Act or regulations, appointed by a person other than the owner.

160. If a young person* is employed at a mine . . . in contravention of the provisions of this Act, the parent† of the young person shall be guilty of an offence and liable, on summary conviction, to a fine not exceeding twenty pounds, unless it appears to the court that the contravention occurred without the consent, connivance or wilful default of the parent.

*See also Section 166.

†As defined in Section 182 (1).

161. (1) If a person—

(a) with intent to deceive, forges or uses or lends to, or allows to be used by, another person a certificate granted under or by virtue of this Act by the Minister, or makes or has in his possession a document so closely resembling any such certificate as to be calculated to deceive; or

(b) for the purpose of obtaining for himself or another person—

(i) the grant of any such certificate or the issue of a duplicate thereof or the restoration of any such certificate or a shortening of any period for which any such certificate is suspended; or

(ii) employment as manager or under-manager of a mine or as surveyor for a mine, or employment in an office the appointment to which is required by or by virtue of this Act to be made by the manager of a mine; or

(iii) . . .

makes a statement which he knows to be false in a material particular or recklessly makes a statement which is false in a material particular, or produces, furnishes, sends or otherwise makes use of a document which he knows to be false in a material particular or recklessly produces, furnishes, sends or otherwise makes use of a document which is false in a material particular; or

(c) wilfully makes a false entry in any register, book, notice or other document required by or by virtue of this Act to be kept, served or given or, with intent to deceive, makes use of any such entry which he knows to be false; or

(d) in purported compliance with a requirement imposed by or by virtue of this Act to furnish any returns, statistics or other information or to inform a person of the substance of any instructions, makes a statement which he knows to be false in a material particular or recklessly makes a statement which is false in a material particular; or

(e) discloses any return, statistics or other information in contravention of this Act; or

(f) on being required under paragraph (f) of subsection (1) of section one hundred and forty-five of this Act to mark on a plan the state of any workings, marks it thereon in a way which he knows to be false in a material particular or recklessly marks it thereon in a way which is false in a material particular; or

(g) falsely pretends to be an inspector;

he shall be guilty of an offence, and liable—

(i) on summary conviction, to imprisonment for a term not exceeding three months or to a fine not exceeding one hundred pounds or to both;

(ii) on conviction on indictment, to imprisonment for a term not exceeding two years or to a fine not exceeding two hundred pounds or to both.

(2) In this section the expression 'forges' has, in the application thereof to England and Wales, the same meaning as in the Forgery Act, 1913.

162. If, without reasonable excuse, a person removes, injures or defaces—

- (a) a notice which is for the time being posted at a mine . . . in pursuance of any provision of this Act or regulations; or
- (b) a document which, in pursuance of section one hundred and thirty-five of this Act, is for the time being provided in accommodation provided in pursuance of that section;

he shall be guilty of an offence and liable on summary conviction to a fine not exceeding five pounds.

163. (1) Any offence under this Act with respect to the trial of which no express provision is made by this Act may be tried either summarily or upon indictment.

(2) A magistrates' court shall, in any proceedings for an offence under this Act, if required by either party, cause a note of the evidence to be taken and preserved.

(3) Where, in consequence of an accident or other occurrence at a mine . . . , a special report is made in pursuance of this Act by an inspector, a report is made by a person appointed under this Act to hold a public inquiry or a coroner's inquest is held, and it appears from the report or from the proceedings at the inquest that, at or before the time of the accident or other occurrence, there was a contravention, in relation to the mine or quarry, of—

- (a) a provision of this Act, of an order made thereunder or of regulations; or
- (b) a direction, prohibition, restriction or requirement given or imposed by a notice served under or by virtue of this Act by an inspector; or
- (c) a condition attached to an exemption, consent, approval or authority granted or given under or by virtue of this Act by the Minister or an inspector;

summary proceedings against any person liable to be proceeded against in respect of the contravention may be commenced at any time within three months after the making of the report or the conclusion of the inquest.

(4) Summary proceedings against any person liable to be proceeded against in respect of a contravention of provisions of regulations having effect by virtue of subsection (1) of section seventeen or subsection (1) of section twenty of this Act may be commenced at any time within three months from the date on which evidence sufficient in the opinion of the Minister to justify a prosecution for the contravention comes to the knowledge of the Minister.

For the purposes of this subsection, a certificate of the Minister as to the date on which such evidence as aforesaid came to his knowledge shall be conclusive evidence thereof.

(5) Where an offence is committed under this Act by reason of a failure to give a notice, enter a report or do any other thing at or within a time specified by this Act, an order made thereunder, regulations or a notice served under or by virtue of this Act by an inspector, the offence shall be deemed to continue until the notice is given, the report entered or the other thing done, as the case may be.

(6) In the application of this section to Scotland, for any reference to a coroner's inquest there shall be substituted a reference to an inquiry under the Fatal Accidents Inquiry (Scotland) Act, 1895, and for any reference to evidence

sufficient to justify a prosecution there shall be substituted a reference to evidence sufficient to justify a report to the Lord Advocate with a view to consideration of the question of prosecution.

164. No proceedings for an offence under this Act shall, in England or Wales, be instituted against any such person as is mentioned in paragraph (a) of subsection (1) of section one hundred and fifty-five of this Act except by an inspector or by or with the consent of the Minister or the Attorney General.

165. (1) An owner or manager of a mine . . . by whom are instituted proceedings against a person employed at the mine . . . for an offence under this Act shall, within twenty-one days after the conclusion of the trial of that person for that offence, give to the inspector for the district notice* of the result of the trial and shall also, within twenty-one days after the conclusion of any proceedings by way of appeal arising out of the trial, give to the inspector for the district notice* of the result of those proceedings.

(2) For the purposes of this section the bringing of proceedings before the High Court to quash a conviction by order of certiorari shall be deemed to be an appeal.

166. For the purposes of any proceedings under this Act in respect of the employment of children in contravention of section fourteen of the Education Act, 1918, section seventeen of the Education (Scotland) Act, 1918, or section one of the Employment of Women, Young Persons and Children Act, 1920 (being enactments which prohibit the employment of children in factories, mines and quarries and, so far as they relate to mines and quarries, are incorporated with this Act), the references in section one hundred and sixty of this Act to a young person shall be construed as including references to a child within the meaning of the said section fourteen, the said section seventeen or the said section one, as the case may be.

167. Any sum paid to the Secretary of State in pursuance of section twenty-seven of the Justices of the Peace Act, 1949, in respect of a fine recovered under this Act shall be deemed to be Exchequer moneys within the meaning of that section and shall be paid by the Secretary of State into the Exchequer.

PART XV

MISCELLANEOUS AND GENERAL

Supplementary Provisions

168. (1) Where two or more parts of a mine are worked separately, then, if the owner of the mine by notice served on the inspector for the district so requires, each such part shall, until the notice is withdrawn by a subsequent notice served by the owner on the inspector for the district, be treated for the purposes of this Act as a separate mine:

†Provided that, where the parts of a mine worked separately, or any of them, have a common system of ventilation or any part of a system of ventilation in common, a notice under this subsection requiring that each part of the mine that is worked separately shall be treated as a separate mine shall be of no effect unless it is approved by an inspector by notice served on the owner of the mine.

*M. & Q. Form No. 209 (33).

†See also Section 182 (2).

(2) A notice under the foregoing subsection requiring that each part of a mine worked separately shall be treated as a separate mine shall be of no effect unless it specifies the points of separation of all roads connecting the parts of the mine that are worked separately.

(3) If an inspector is of opinion with respect to a mine whereof parts are, by virtue of this section, for the time being treated for the purposes of this Act as separate mines, that the division of the mine prejudices or is likely to prejudice the safety or health of the persons employed thereat (or any of them), he may serve on the owner of the mine a notice directing that subsection (1) of this section shall cease to apply to the mine.

The provisions of this Part of this Act with respect to references upon notices served by inspectors shall apply to a notice served under this subsection.

169. . . .

170. (1) The following provisions of this section shall apply in relation to any notice served under any provision of this Act or regulations by an inspector on the owner or manager of a mine . . . , being a notice which is expressly declared to be one to which the provisions of this Part of this Act with respect to references upon notices served by inspectors are to apply.*

(2) If the person on whom any such notice is served or, in a case where it is served on two or more persons, any of them, by a counter-notice duly served on the inspector who served the notice demands a reference upon the notice, it shall stand referred to a person or persons selected by the nominated selector (as hereinafter defined) from amongst the members of that one of the panels of persons appointed by the Minister under this section which is appropriate to the circumstances of the case:

Provided that, if the said selector is satisfied that special reasons exist which render it expedient for him to act as referee instead of a person or persons selected as aforesaid, he may direct that the notice shall stand referred to him.

(3) On a reference under this section upon any such notice, any of the following persons may appear in person or be represented, and may give evidence and call such witnesses as he thinks fit, that is to say:

- (a) any person on whom the notice was served;
- (b) any inspector;
- (c) any association or body representative of a majority of the total number of persons employed at the mine . . . to which the notice relates;
- (d) any other persons appearing to the referee or referees to be affected by the notice or any association or body representative of any such persons.

(4) The following provisions shall have effect with respect to the quashing or confirmation of any such notice upon a reference thereon under this section, namely,—

- (a) if no relevant ground of objection to the notice is established to the satisfaction of the referee or referees, he or they shall confirm the notice;

*A list of such notices is given in Appendix 2.

- (b) if a relevant ground of objection is so established, the referee or referees shall quash the notice unless he or they is or are of opinion that the objection can be met by modification of the notice, in which case the referee or referees shall confirm the notice subject to such modification as appears to him or them to meet the objection;

and where the notice is confirmed subject to any modification it shall take effect as modified.

(5) For the purposes of the last foregoing subsection—

- (a) in the case of any such notice served under a provision of this Act (other than subsection (3) of section one hundred and sixty-eight), any of the following grounds which are appropriate to the circumstances of the case shall be a relevant ground of objection, namely,—

(i) that compliance with a prohibition, restriction or requirement sought to be imposed by or by virtue of the notice is, wholly or to a particular extent, unnecessary, inadvisable for reasons of safety or impracticable;

(ii) that any period limited by the notice is insufficient for the purpose of enabling any works to be executed or other thing done;

- (b) in the case of a notice served under the said subsection (3), the relevant ground of objection shall be that the division of the mine to which the notice relates neither prejudices nor is likely to prejudice the safety or health of any of the persons employed at the mine;

- (c) in the case of a notice served under any provision of regulations, the relevant ground or grounds of objection shall be such as may be prescribed.

(6) Save as otherwise expressly provided by this Act or regulations, any such notice shall not become operative in any event until the expiration of the period within which a reference thereon may be demanded under this section or, if within that period such a reference is so demanded, until the notice is confirmed by the referee or referees.

(7) The quashing under this section of any such notice shall neither be taken to prevent the service by an inspector of a fresh notice nor, if the notice became operative before it was quashed, affect the previous operation thereof.

(8) The Minister may—

- (a) constitute such number as he thinks fit of panels of persons from whom referees may be selected for the purposes of references under this section and, as respects each panel, may designate the cases in which it is to be treated for the purposes of this section as the appropriate panel;

- (b) make rules* for regulating such references and, in particular, for making provision with respect to the costs of such references (including the payment of remuneration and allowances to referees) and for specifying the form of a counter-notice under subsection (2) of this section and the period within which such a notice must be served;

and different periods may be specified by rules under paragraph (b) of this subsection in relation to the service of counter-notices relating to notices served under different provisions of this Act or regulations.

*See the Mines and Quarries (References) Rules, 1956, page 289.

(9) The reference in subsection (2) of this section to the nominated selector shall be construed as referring to such person as may for the time being be nominated by the Minister, after consultation with the Lord Chancellor and the Lord President of the Court of Session, to discharge the duty of selecting referees to act upon references under this section.

171. Where the natural language of communication of the persons employed at a mine . . . or of a substantial number of those persons is Welsh, then, in considering the qualifications of candidates for appointments required, by or by virtue of this Act, to be made in the case of that mine . . . , regard shall be had to the possession of a knowledge of that language.

172. Where the Minister is of opinion, with respect to mines . . . of any class, that by reason of the nature or amount of work involved, or of the shortness of the period during which the mines . . . are expected to be worked or other special circumstances affecting them, it would not be right to require compliance with a particular provision of Part III or, as the case may be, Part V of this Act forthwith after the commencement of this Act, he may by order exempt mines . . . of that class from that provision for such period, not exceeding five years beginning with the commencement of this Act, as may be specified in the order; and where an inspector is of the like opinion with respect to a particular mine . . . , he may by notice served on the responsible person* exempt the mine . . . from that provision for such period, not exceeding five years beginning with the commencement of this Act, as may be specified in the notice.

173. Any power conferred by this Act to make an order or rule shall be construed as including a power, exercisable in the like manner and subject to the like conditions, if any, to revoke or vary the order or rule.

174. The powers conferred by this Act on the Minister to make orders, rules and regulations and on the Minister and the Minister of Labour and National Service to make orders shall be exercisable by statutory instrument which (except in the case of special regulations or of an order expressed to relate only to a particular mine . . . or a particular set of premises) shall be subject to annulment in pursuance of a resolution of either House of Parliament.

175. (1) A notice required or authorised by or by virtue of this Act to be served on or given to an inspector may be served or given by delivering it to him or by leaving it at, or sending it by post to, his office.

(2) A notice required or authorised by or by virtue of this Act to be served on or given to the owner of a mine . . . may be served or given—

(a) where the owner is an individual, by delivering it to him, by leaving it at the office at the mine . . . or by sending it by post addressed to him at his usual or last known place of abode or the proper postal address of the mine; . . .

(b) where the owner is a body corporate, by delivering it to the secretary or clerk to the body at their registered or principal office or by sending it by post addressed to the secretary or clerk to the body at that office;

(c) where the owner is a firm, by delivering it to any partner of the firm or by leaving it at, or sending it by post to, the office of the firm.

*i.e., the manager (see Section 182 (1)).

(3) A notice required or authorised by or by virtue of this Act to be served on or given to the manager of a mine . . . may be served or given by delivering it to him, by leaving it at the office at the mine . . . or by sending it by post addressed to him at the proper postal address of the mine . . .

(4) The foregoing provisions of this section shall apply to the sending or lodging of any document as they apply to the giving of a notice.

176. (1) Any power conferred by this Act or regulations on the Minister or an inspector to grant, give or impose an exemption, consent, approval, authority, direction, requirement, prohibition or restriction or to make a determination shall be construed as including a power exercisable in the like manner and subject to the like conditions, if any, to vary or revoke the exemption, consent, approval, authority, direction, requirement, prohibition, restriction or determination.

(2) Any exemption, consent, approval or authority granted or given under this Act or regulations by the Minister or an inspector may (subject to any express provision of this Act or regulations) be without limit of period or limited so as to expire on a specified date unless renewed, and may be absolute or conditional.

177. The Minister may charge, in respect of the testing by him of any articles with a view to the certification or approval thereof for the purposes of this Act or regulations, such fees* as he may, with the approval of the Treasury, determine.

178. Any expenses incurred under or by virtue of this Act by the Minister shall be defrayed out of moneys provided by Parliament and any sums received under or by virtue of this Act by the Minister shall be paid into the Exchequer.

179. This Act shall apply to mines . . . belonging to Her Majesty in right of the Crown or to a Government department or held in trust for Her Majesty for the purposes of a Government department.

Interpretation

180. (1) †In this Act the expression ‘mine’ means an excavation or system of excavations made for the purpose of, or in connection with, the getting, wholly or substantially by means involving the employment of persons below ground, of minerals (whether in their natural state or in solution or suspension) or products of minerals.

*The bases on which fees are charged will be found in the relevant Testing Memoranda which deal respectively with:

- | | | |
|-----|----|---|
| No. | 1 | Test and Approval of Safety Lamps. |
| „ | 2 | Test of Explosives for Inclusion in the Permitted List. |
| „ | 3 | Test of Self-contained Breathing Apparatus. |
| „ | 4 | Test and Certification of the Flameproof Enclosure of Electrical Apparatus. |
| „ | 5 | Test and Approval of Electrical Shot Firing Apparatus (Exploders) for use in Mines. |
| „ | 6 | Examination, Test and Certification of Dust Respirators. |
| „ | 7 | Test and Approval of Methanometers. |
| „ | 8 | Test and Certification of Safety Helmets for use in Mines. |
| „ | 9 | Test of Mechanical Drilling Appliances and Associated Equipment with respect to Dust Suppression. |
| „ | 10 | Test and Certification of Intrinsically Safe Electrical Apparatus and Circuits. |
| „ | 11 | Test and Specification of Storage Battery Locomotives for use in Mines. |
| „ | 12 | The Design and Test requirements for Diesel Locomotives. |

†See also Section 191 (7).

(2) . . .

(3) For the purposes of this Act—

(a) there shall be deemed to form part of a mine so much of the surface (including buildings, structures and works thereon) surrounding or adjacent to the shafts or outlets of the mine as is occupied together with the mine for the purpose of, or in connection with, the working of the mine, the treatment, preparation for sale, consumption or use, storage or removal from the mine of the minerals or products thereof gotten from the mine or the removal from the mine of the refuse thereof; and

(b) . . .

Provided that there shall not, for the said purposes, be deemed to form part of a mine . . . premises in which a manufacturing process is carried on otherwise than for the purpose of the working of the mine . . . or the preparation for sale of minerals gotten therefrom.

* (4) For the purposes of this Act premises for the time being used for depositing refuse from a single mine . . . , being premises exclusively occupied by the owner of that mine . . . , shall be deemed to form part of that mine . . . , and premises for the time being used for depositing refuse from two or more mines or quarries, being premises occupied by the owner of one of those mines or quarries (either exclusively or jointly with the owner of the other or any of the others) shall be deemed to form part of such one of those mines or quarries as the Minister may direct.

* (5) For the purposes of this Act a railway line serving a single mine . . . (not being a railway line falling within subsection (3) of this section or a railway line belonging to a railway company)† shall be deemed to form part of that mine . . . and a railway line jointly serving two or more mines or quarries (not being a railway line falling within subsection (3) of this section or a railway line belonging to a railway company) shall be deemed to form part of such one of them as the Minister may direct.

(6) For the purposes of this Act a conveyor or aerial ropeway provided for the removal from a mine . . . of minerals gotten therefrom or refuse therefrom shall be deemed to form part of the mine . . .

181. (1) Subject to the provisions of this section, in this Act the expression 'owner' means, in relation to a mine . . . , the person for the time being entitled to work it.

(2) . . .

(3) . . .

(4) Where the business of a person who, by virtue of the foregoing provisions of this section is, for the purposes of this Act, to be taken to be owner of a mine . . . is carried on by a liquidator, receiver or manager, or by some other person authorised to carry it on by an order of a court of competent jurisdiction, the liquidator, receiver, manager or other person shall be taken for the purposes of this Act to be an additional owner of the mine

*Premises used for depositing rubbish, or a railway line, may be used for the purposes of a mine and a quarry in the same ownership. References to quarries as well as mines have therefore been retained, where appropriate, in the extracts from these two subsections.

†As defined in Section 182 (1).

(5) . . .

182. (1) In this Act, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say :

‘bodily injury’ includes injury to health;

‘central rescue station’ has the meaning assigned to it by section seventy-two of this Act;

‘contravention’ includes, in relation to—

(a) a provision of this Act, of an order made thereunder or of regulations; or

(b) a direction, prohibition, restriction or requirement given or imposed by a notice served under or by virtue of this Act by an inspector; or

(c) a condition attached to an exemption, consent, approval or authority granted or given under or by virtue of this Act by the Minister or an inspector;

a failure to comply with the provision, direction, prohibition, restriction, requirement or condition, and the expression ‘contravene’ shall be construed accordingly;

‘gas’ includes fume or vapour;

‘gravity operated rope haulage apparatus’ means rope haulage apparatus worked solely by the action of gravity on a vehicle or vehicles attached to a rope forming part of the apparatus;

‘gravity operated winding apparatus’ means winding apparatus worked solely by the action of gravity on a part of it in which a load is carried;

‘inset’ means, in relation to a shaft or outlet of a mine, a heading, chamber or other space driven or excavated from the shaft or outlet, being a heading, chamber or space to which access can only be had from the shaft or outlet and not being a heading, chamber or space the sole or main purpose of the driving or excavation of which is the getting of minerals or products of minerals;

‘inspector’ means an inspector appointed under this Act, and a reference to the inspector for the district refers, as respects a mine . . . , to the inspector in charge of the district in which the mine . . . is situate;

‘legal proceedings’ includes arbitration;

‘mechanically operated rope haulage apparatus’ means rope haulage apparatus worked by a stationary engine;

‘mechanically operated winding apparatus’ means winding apparatus worked by a stationary engine;

‘minerals’ includes stone, slate, clay, gravel, sand and other natural deposits except peat;

*‘The Minister’ means the Minister of Fuel and Power;

*‘the Minister’ now means ‘the Minister of Power’—see paragraph 3 of the Introduction to this volume.

'notice' means a notice in writing;
 'parent' means a parent or guardian of, or person having the legal custody of, or the control over, a young person, and includes, in relation to any young person, a person having direct benefit from his wages;
 'period of employment' means the period (inclusive of the time allowed for meals and rest) within which a person may be employed on any day;
 'permitted lights' means, in relation to a mine or a part of a mine, locked safety-lamps and any other means of lighting the use of which below ground in mines generally, in mines of a class to which that mine belongs or in that mine is authorised by regulations;
 'prescribed' has the meaning assigned to it by subsection (5) of section one hundred and forty-one of this Act;
 'railway company' means any persons authorised by an enactment to construct, work or carry on a railway and includes the British Transport Commission, and for the purposes of this definition the expression 'enactment' includes a provision of an order or scheme made under or confirmed by an Act;
 'regulations', 'general regulations' and 'special regulations' have the meanings respectively assigned to them by subsection (5) of section one hundred and forty-one of this Act;
 'responsible person' means, in relation to a mine, the manager thereof . . . ;
 'road' does not include an unwalkable outlet;
 'rope' includes chain;
 'rope haulage apparatus' means apparatus for transporting loads in vehicles attached to ropes;
 'safety-lamp mine' means a mine in no part of which below ground is the use of lamps or lights other than permitted lights lawful;
 'safety-lamp part of a mine' means a part of a mine other than a safety-lamp mine, being a part below ground in which either the use of lamps or lights other than permitted lights is unlawful or safety-lamps are for the time being in use by way of temporary precaution;
 'sanitary conveniences' includes urinals, water-closets, earth-closets, ash-pits, privies and any similar convenience;
 'shaft' means a shaft the top of which is, or is intended to be, at the surface;
 'staple-pit' includes winze;
 'statutory responsibilities' means responsibilities under this Act, orders made thereunder and regulations;
 'support rules' has the meaning assigned to it by subsection (1) of section fifty-four of this Act;
 'transport rules' has the meaning assigned to it by subsection (1) of section thirty-seven of this Act;
 'unwalkable outlet' means an outlet which, owing to the gradient thereof or of any part thereof (whether alone or in combination with other circumstances), persons cannot walk up with reasonable convenience;
 'week' means the period between midnight on Saturday night and midnight on the succeeding Saturday night;

‘winding apparatus’ means, in relation to a mine shaft or staple-pit, apparatus for lowering and raising loads through the shaft or staple-pit;

‘woman’ means a woman who has attained the age of eighteen;

‘young person’ means a person who is over compulsory school age but has not attained the age of eighteen.

(2) For the purposes of this Act mine workings having a common system of ventilation, or any part of a system of ventilation in common, shall be deemed to form part of the same mine.

(3) For the purposes of this Act—

(a) the working of a mine shall be deemed to include the operation of driving a shaft or outlet therefor;

(b) . . . ;

(c) a mine . . . shall be deemed to be worked notwithstanding that the only operations carried on thereat are operations carried on with a view to abandoning the mine . . . or for the purpose of preventing the flow therefrom into an adjacent mine . . . of water or material that flows when wet, but shall not be deemed to be worked by reason only that pumping operations are carried on thereat for the purpose of supplying water to any person.

(4) References in this Act to the use of safety-lamps by way of temporary precaution shall, in relation to a mine, be construed as references to the occasional or intermittent use of locked safety-lamps by workmen employed below ground in the mine in a place in which the use of naked lights might be dangerous and, in relation to a part of a mine below ground, be construed as references to the occasional or intermittent use of locked safety-lamps by workmen employed in that part in such a place.

(5) References in this Act to any other enactment shall be construed as references to that enactment as amended, extended or applied by or under any subsequent enactment including, except where the context otherwise requires, this Act.

183. (1) For the purposes of this Act an excavation or system of excavations made for training purposes shall be deemed to be a mine, and the use for those purposes of any premises which are a mine as defined by subsection (1) of section one hundred and eighty of this Act or are, by virtue of this section, deemed to be a mine shall be deemed, for the purposes of this Act, to constitute the working of the mine; but the Minister may by order direct that this Act shall, in its application to any such premises as aforesaid which are used exclusively for training purposes, have effect subject to such exceptions, adaptations and modifications as may be specified in the order.

(2) In this section the expression ‘training purposes’ means the purposes of instructing or training below ground persons in, or in any work connected with, mining minerals.

Relationship of Factories Acts and this Act in case of certain premises

184. (1) None of the provisions of the Factories Acts, 1937 and 1948, shall apply to any premises forming part of a mine . . .

(2) In the case of any premises to which all or any of the provisions of the Factories Acts, 1937 and 1948, would apply but for subsection (1) of this section, the Ministers may by order direct that that subsection shall not apply to the premises and that the premises shall be treated for the purposes of this Act as not forming part of a mine

(3) In the case of any premises to which all or any of the provisions of the Factories Acts, 1937 and 1948, apply, being premises which, but for the proviso to subsection (3) of section one hundred and eighty of this Act, would be deemed for the purposes of this Act to form part of a mine . . . , the Ministers may by order* direct that neither any of the provisions of those Acts nor that proviso shall apply to the premises.

(4) In the case of premises which are a factory within the meaning of the Factories Acts, 1937 and 1948, or to which all or any of the provisions of those Acts apply as if the premises were such a factory, being premises which, though not forming part of a mine . . . , are occupied by the owner of a mine . . . and used solely for the purpose of the provision or supply for or to a single mine . . . , or jointly for or to more than one mine . . . , of services or electricity, the Ministers may by order* direct that, while the order is in force, none of the provisions of the Factories Acts, 1937 and 1948, shall apply to the premises and the premises shall be deemed for the purposes of this Act to form part of the mine . . . or, as the case may be, of such one of them as may be specified in the order.

(5) References in subsections (1) to (4) of this section to provisions of the Factories Acts, 1937 and 1948, shall be construed as exclusive of references to sections one hundred and seven and one hundred and eight of the Factories Act, 1937 (which respectively apply other provisions of that Act to building operations undertaken by way of trade or business or for the purposes of any industrial or commercial undertaking and to works of engineering construction so undertaken) and to the other provisions of those Acts in so far as, by virtue of the said sections one hundred and seven and one hundred and eight, they are applicable to such operations or works; but—

(a) the said section one hundred and seven shall not apply to any building operations undertaken below ground in a mine; and

(b) the said section one hundred and eight shall not apply to any works of engineering construction undertaken at a mine (whether above or below ground)

(6) Where any machinery or apparatus is situate partly in a mine . . . and partly in a factory within the meaning of the Factories Acts, 1937 and 1948, the Ministers may by order direct that it shall be deemed, for the purposes of this Act and the Factories Acts, 1937 and 1948, either to be wholly situate in the mine . . . and not to be situate in the factory or to be wholly situate in the factory and not to be situate in the mine

(7) In this section the expression 'the Ministers' means the Minister and the Minister of Labour and National Service and references to building operations and works of engineering construction shall be construed in like manner as if they were references contained in the Factories Act, 1937.

*No order of general application for this purpose has yet been made.

Repeals, Savings, Transitional Provisions, &c.

185. So much of section two of the Payment of Wages in Public Houses Prohibition Act, 1883, as excludes from the definition of 'workman' contained in that section a person employed in a mine to which the Coal Mines Act, 1911, or the Metalliferous Mines Regulation Act, 1872, applies shall cease to have effect.

186. Section twenty-one of the Mining Industry Act, 1926 (which enables provision to be made for the establishment of joint committees for coal mines) shall cease to have effect.

187. (1) *The provisions of Part XIV of this Act shall have effect as if the provisions of the Coal Mines Regulation Act, 1887, the Coal Mines (Check Weigher) Act, 1894, and the Coal Mines (Weighing of Minerals) Act, 1905 (which relate to check weighing), and of the Coal Mines Regulation Act, 1908 (which relates to hours of work below ground), were included in this Act.

(2) Expressions used in the provisions of the said Acts to which meanings are assigned by this Act for the purposes thereof shall have those meanings for the purposes of the said provisions, and a person who is for the time being treated for the purposes of this Act as the manager of a mine shall also be treated for the purposes of the said Act of 1908 as the manager of that mine.

188. The enactments specified in the Fourth Schedule to this Act shall have effect subject to the amendments respectively specified in relation thereto in that Schedule (being minor amendments and amendments consequential on the provisions of this Act).

189. The enactments mentioned in the first and second columns of the Fifth Schedule to this Act are hereby repealed to the extent specified in the third column of that Schedule; and Regulation sixty A of the Defence (General) Regulations, 1939, is hereby revoked.

190. (1) The Minister may by order† made before, but expressed to come into operation at, the commencement of this Act, re-enact (to the extent to which they could, by virtue of this Act, be enacted in regulations made under section one hundred and forty-one thereof)—

(a) provisions of any regulation having effect by virtue of section eighty-six of the Coal Mines Act, 1911, or of any order having effect by virtue of section sixty-one of that Act;

(b) provisions of any enactment repealed by the last foregoing section in so far as that enactment is not re-enacted in this Act;

subject to such modifications (if any) as appear to him to be consequential on the passing of this Act or requisite for the purpose either of bringing those provisions into conformity with this Act or of expressly limiting their operation to mines . . . of the class to which their operation is limited immediately before the commencement of this Act.

(2) An order under the foregoing subsection shall set out in a schedule to the order the provisions thereby re-enacted, and may direct that those provisions shall have effect as if they were regulations made under section one hundred

*See paragraph 7 of the Introduction to this volume.

†The substance of all orders made under this Section is published in this volume, so far as they apply to mines of the class to which the volume relates.

and forty-one of this Act and provide for the mode of citation thereof and may contain provision with respect to any matters for which it appears to the Minister expedient to provide for the purposes of the transition to the provisions of the order from the provisions of the regulation, order or enactment thereby re-enacted.

(3) For the avoidance of doubt it is hereby declared that the power conferred by subsection (1) of this section extends, in a case where provision is made by this Act for the granting by regulations of exemptions from an enactment contained therein (being an enactment which re-enacts, with or without modifications, a provision of a regulation having effect by virtue of section eighty-six of the Coal Mines Act, 1911, or of an enactment repealed by the last foregoing section), to the re-enactment, by way of exemption from the first-mentioned enactment (but not to a greater extent than is authorised by this Act), of any exception or exemption subject to which the provision re-enacted had effect.

191. (1) Nothing in this Act shall affect—

- (a) any special regulation made under an enactment repealed by this Act;
- (b) any rule made by the Mining Qualifications Board constituted under the Coal Mines Act, 1911;
- (c) any order with respect to fees, notification of accidents or the manner in which persons are to be searched, being an order made under an enactment repealed by this Act or by the said Act of 1911;
- (d) any rule made under section fifty of the said Act of 1911; or
- (e) any certificate issued, exemption, consent, approval, permission or authority granted or any other thing done under an enactment repealed by this Act;

but any such regulation, rule or order so made or any certificate, exemption, consent, approval, permission, authority or thing so issued, granted or done shall, if in force at the commencement of this Act and so far as it could have been made, issued, granted or done under this Act, have effect as if it had been so made, issued, granted or done.

(2) . . .

(3) Any document referring to any Act or enactment repealed by this Act shall be construed as referring to this Act or the corresponding enactment in this Act.

(4) Any inquiry or formal investigation under section eleven or eighty-three of the Coal Mines Act, 1911, which is uncompleted at the commencement of this Act may be carried on and completed in all respects as if this Act had not passed.

(5) Any person holding office or acting or serving under or by virtue of an enactment repealed by this Act shall continue to hold office or to act or serve as if he had been appointed under or by virtue of the corresponding enactment in this Act.

(6) Any register kept under an enactment repealed by this Act shall be deemed part of the register to be kept under the corresponding enactment in this Act.

(7) Nothing in this Act shall affect the definition of 'mine' for the purposes of the Rating and Valuation (Apportionment) Act, 1928.

(8) The mention of particular matters in this section shall be without prejudice to the general application of section thirty-eight of the Interpretation Act, 1889, with regard to the effect of repeals.

192. A person who, immediately before the commencement of this Act, is, by virtue of subsection (3) of section two of the Coal Mines Act, 1911, exercising and performing, in relation to a mine . . . then exempt from the provisions of that section, the powers and duties conferred and imposed by that Act on the manager of a mine, may be manager of that mine or another mine of coal, stratified ironstone, shale or fireclay at any time at which the number of persons employed below ground in the mine does not exceed thirty and no direction is in force with respect to the mine under paragraph (b) of subsection (2) of section four of this Act or under subsection (3) of that section, notwithstanding that he does not possess the qualifications required by this Act for appointment as manager thereof.

193. No provision of this Act, of any order made thereunder or of regulations shall be construed as derogating from any rule of law with respect to the duties owed by masters to their servants (including, in particular, but without prejudice to the generality of the foregoing words, the duty to provide a safe system of working), and section one of this Act shall not be construed as derogating from any obligation imposed by or by virtue of any other provision of this Act upon the owner of a mine . . .

194. This Act, except sections one hundred and seventy-two and one hundred and ninety thereof, shall come into operation on such day* as the Minister may by order appoint, and those sections shall come into operation on the passing of this Act; and for the purposes of this Act and of the application thereto of section thirty-seven of the Interpretation Act, 1889 (which relates to the exercise of statutory powers between the passing and the commencement of an Act) references to the commencement of this Act shall, notwithstanding the provisions of section thirty-six of the said Act of 1889 with respect to the construction of the expression 'commencement', be construed as references to the time at which this Act, except the said sections one hundred and seventy-two and one hundred and ninety, comes into operation.

195. (1) This Act may be cited as the Mines and Quarries Act, 1954.

(2) This Act shall not extend to Northern Ireland.

SCHEDULES

FIRST SCHEDULE (SECTION 122)

PUBLIC INQUIRIES INTO ACCIDENTS, &C.

1. A public inquiry which the Minister directs to be held under section one hundred and twenty-two of this Act into an accident or other occurrence at a mine . . . shall be held by a competent person appointed by the Minister who may conduct the inquiry either alone or with the assistance of an assessor or assessors so appointed.

*The appointed day was 1st January, 1957—see the Mines and Quarries Act (Commencement) Order, 1956 (S.I. 1956/1530 (C.11)).

2. The Minister may pay to the person appointed to hold the inquiry and to any assessor appointed to assist him such remuneration and allowances as the Minister may, with the approval of the Treasury, determine.

3. The person appointed to hold the inquiry (hereafter in this Schedule referred to as 'the court') shall hold the inquiry in public in such manner and under such conditions as the court thinks most effectual for ascertaining the causes and circumstances of the accident or other occurrence and for enabling the court to make the report hereafter in this Schedule mentioned.

4. The court shall, for the purposes of the inquiry, have power—

- (a) to enter and inspect any place or building the entry or inspection whereof appears to the court requisite for the said purposes;
- (b) by summons signed by the court to require any person to attend, at such time and place as is specified in the summons, to give evidence or produce any documents in his custody or under his control which the court considers it necessary for the purposes of the inquiry to examine;
- (c) to require a person appearing at the inquiry to furnish to any other person appearing thereat, on payment of such fee, if any, as the court thinks fit, a copy of any document offered, or proposed to be offered, in evidence by the first-mentioned person;
- (d) to take evidence on oath, and for that purpose to administer oaths, or, instead of administering an oath, to require the person examined to make and subscribe a declaration of the truth of the matter respecting which he is examined;
- (e) to adjourn the inquiry from time to time; and
- (f) subject to the foregoing sub-paragraphs, to regulate the procedure of the court.

5. A person attending as a witness before the court shall be entitled to be paid by the Minister such expenses as would be allowed to a witness attending on subpoena before a court of record, and any dispute as to the amount to be so allowed shall be referred by the court to a master of the Supreme Court who, on request signed by the court, shall ascertain and certify the proper amount of the expenses.

6. The court shall make a report to the Minister stating the causes and circumstances of the accident or other occurrence, adding any observations which the court thinks it right to make, and the Minister shall lay copies of the report before Parliament.

7. If a person—

- (a) without reasonable excuse (proof whereof shall lie on him) fails, after having the expenses (if any) to which he is entitled tendered to him, to comply with any summons or requisition of the court; or
- (b) does any other thing which would, if the court had been a court of law having power to commit for contempt, have been contempt of that court;

the court may, by instrument signed by the court, certify the offence of that person to the High Court or, in Scotland, the Court of Session, and the High Court or Court of Session may thereupon inquire into the alleged offence and

after hearing any witnesses who may be produced against or on behalf of the person charged with the offence, and after hearing any statement that may be offered in defence, punish or take steps for the punishment of that person in like manner as if he had been guilty of contempt of the High Court or, as the case may be, the Court of Session.

8. In the application of this Schedule to Scotland, for references to a master of the Supreme Court, to a witness attending on subpoena before a court of record, and to a summons there shall be respectively substituted references to the Auditor of the Court of Session, to a witness attending on citation the High Court of Justiciary and to an order.

SECOND SCHEDULE (SECTION 142)

PROCEDURE FOR MAKING REGULATIONS

PART I

PROCEDURE FOR MAKING GENERAL REGULATIONS

1. Before the Minister makes any general regulations he shall publish in the *London Gazette* and, if the regulations apply to Scotland, in the *Edinburgh Gazette* and (whether the regulations apply to Scotland or not) in such other manner as he thinks best adapted for informing persons affected, notice of his intention to make the regulations, specifying a place where copies of a draft thereof may be obtained and the time (which shall be not less than twenty-one days from the date of the publication) within which any objection made with respect to the draft regulations must be sent to him.

2. Every objection so made must be in writing and must state—

(a) the specific grounds of objection; and

(b) the omissions, additions or modifications asked for;

and the Minister shall consider any such objection made by or on behalf of any person appearing to him to be affected, being an objection sent to him within the time specified in the notice, but shall not be bound to consider any other objection.

3. If there are no objections which the Minister is required by the last foregoing paragraph to consider, he may make the regulations in the terms of the draft.

4. The following provisions shall have effect where the Minister does not proceed under the last foregoing paragraph:

(a) if he is not required by paragraph 2 of this Schedule to consider a general objection and if either he is not so required to consider any special objection or all special objections which he is so required to consider appear to him, upon consideration thereof, to be frivolous, he may, unless he decides to take no further proceedings with respect thereto, either make the regulations in the terms of the draft or, if he thinks fit so to do, refer the draft regulations for inquiry and report under Part III of this Schedule; and

(b) in any other case, he shall, unless he decides to take no further proceedings with respect thereto, refer the draft regulations for inquiry and report as aforesaid.

5. Where, under the last foregoing paragraph, the Minister refers the draft regulations for inquiry and report under Part III of this Schedule, he shall consider the report and, unless he decides to take no further proceedings with respect to the draft regulations, may,—

(a) if the report of the person or persons holding the inquiry does not recommend the making of any modifications in the draft regulations, make the regulations in the terms of the draft; or

(b) if the said report recommends the making of modifications in the draft regulations, make the regulations in the terms of the draft subject to such modifications as give effect to the recommendations made in the report.

6. In the Part of this Schedule—

(a) the expression 'general objection' means, in relation to draft regulations, an objection to any provision thereof, being an objection made by or on behalf of owners of mines . . . who employ not less than one-third of the total number of persons employed at all the mines . . . affected by the draft regulations or by or on behalf of an association or body representative of not less than one-third of the total number of persons so employed; and

(b) the expression 'special objection' means, in relation to draft regulations,—

(i) an objection to any provision thereof, being an objection made by or on behalf of owners of a class of mines . . . or a sub-division of a class of mines . . . and expressed to be made on the ground that, having regard to the special conditions of, or the special methods of working at, mines . . . of that class or sub-division, the provision objected to ought not to apply thereto; or

(ii) an objection to a provision thereof applicable only to a particular class of mines . . . or a particular sub-division of such a class, being an objection made by or on behalf of owners of mines . . . of that class or sub-division, as the case may be, who employ not less than one-third of the total number of persons employed at all mines . . . of that class or sub-division, or by or on behalf of an association or body representative of not less than one-third of the total number of persons so employed;

not being, in either case, an objection which, by virtue of sub-paragraph (a) of this paragraph, is a general objection.

PART II

PROCEDURE FOR MAKING SPECIAL REGULATIONS

7. Special regulations with respect to a mine . . . shall not be made otherwise than on the application of an inspector, the owner of the mine . . . , not less than one-third of the total number of persons employed thereat or an association or body representative of not less than one-third of the total number of persons so employed.

8. An application for the making of special regulations must be accompanied by a draft of the regulations sought to be made.

9. Before the Minister makes any special regulations he shall publish in such manner as he thinks best adapted for informing persons affected notice of his intention to make the regulations, specifying the place where copies of a draft thereof may be obtained and the time (which shall be not less than twenty-one days from the date of the publication) within which any objection made with respect to the draft regulations must be sent to him.

10. Every objection so made must be in writing and must state—

(a) the specific grounds of objection; and

(b) the omissions, additions or modifications asked for;

and the Minister shall consider any such objection made by or on behalf of any person appearing to him to be affected, being an objection sent within the time specified in the notice, but shall not be bound to consider any other objection.

11. If there are no objections which the Minister is required by the last foregoing paragraph to consider, he may make the regulations in the terms of the draft.

12. The following provisions shall have effect where the Minister does not proceed under the last foregoing paragraph:

(a) if he is required by paragraph 10 of this Schedule to consider an objection made by or on behalf of the owner of the mine . . . to which the draft regulations relate or by or on behalf of an association or body representative of not less than one-third of the total number of persons employed thereat, he shall, unless he decides to take no further proceedings with respect thereto, refer the draft regulations for inquiry and report under Part III of this Schedule; and

(b) in any other case, he may, unless he decides to take no further proceedings with respect to the draft regulations, either make the regulations in the terms of the draft or, if he thinks fit so to do, refer the draft regulations for inquiry and report as aforesaid.

13. Where, under the last foregoing paragraph, the Minister refers the draft regulations for inquiry and report under Part III of this Schedule, he shall consider the report and, unless he decides to take no further proceedings with respect to the draft regulations, may,—

(a) if the report of the person or persons holding the inquiry does not recommend the making of any modifications in the draft regulations, make the regulations in the terms of the draft; or

(b) if the said report recommends the making of modifications in the draft regulations, make the regulations in the terms of the draft subject to such modifications as give effect to the recommendations made in the report.

PART III

INQUIRIES UNDER PART I OR II

14. The following provisions of this Part of this Schedule shall have effect where any draft regulations are, by virtue of Part I or Part II of this Schedule, referred for inquiry and report under this Part of this Schedule.

15. The inquiry shall be held by a competent person or competent persons appointed by the Lord Chancellor and, where two or more persons are appointed to hold the inquiry, the Lord Chancellor shall appoint one of them to preside over it.

16. There may be paid by the Minister to the person or persons holding the inquiry such remuneration and allowances as may be fixed by the Lord Chancellor with the approval of the Treasury.

17. The inquiry shall be public and shall be held at such place as the Lord Chancellor may appoint.

18. Any of the following persons may appear at the inquiry either in person or by counsel, solicitor or agent, and may give evidence and call such witnesses as he thinks fit, that is to say:

(a) the Minister;

(b) any person who duly objected to any provision of the draft regulations; and

(c) any other person, being a person who, in the opinion of the person holding the inquiry (or, if two or more persons are holding it, the person presiding over it), is affected by the draft regulations.

19. The evidence of the witnesses at the inquiry may, if the person holding it (or, if two or more persons are holding it, the person presiding over it) thinks fit, be taken on oath, and for that purpose the said person may administer oaths.

20. The person or persons holding the inquiry shall make a report to the Minister stating whether or not the draft regulations ought, in his or their opinion, to be modified and, if in his or their opinion the draft regulations ought to be modified, stating in what respect they ought to be modified.

21. If it appears to the person holding the inquiry (or, if two or more persons are holding it, the person presiding over it) that any objection made thereat to any provision of the draft regulations was frivolous or vexatious, he may order that the expenses incurred by the Minister for the purposes of the inquiry or such part of those expenses as may be specified in the order shall be paid by the person by or on whose behalf the objection was made; and an order under this paragraph shall, on the application of the Minister, be enforceable by a magistrates' court as if the amount ordered to be paid were a sum adjudged to be paid by an order of that court.

22. Subject to the foregoing provisions of this Part of this Schedule, the inquiry and all proceedings preliminary or incidental thereto shall be conducted in accordance with rules* made by the Minister.

23. Where any draft regulations referred for inquiry and report under this Part of this Schedule apply to Scotland only, this Part of this Schedule shall apply subject to the following modifications:

(a) for references to the Lord Chancellor there shall be substituted references to the Lord President of the Court of Session;

(b) an order under paragraph 21 of this Schedule may be recorded in the Books of Council and Session for execution and may be enforced accordingly.

*See the Mines and Quarries (Draft Regulations) Rules, 1956, page 294.

THIRD SCHEDULE (SECTION 150)

INQUIRIES INTO FITNESS OF HOLDERS OF CERTIFICATES AND DELIVERY UP AND CUSTODY OF CERTIFICATES IN CONNECTION WITH PROSECUTIONS AND INQUIRIES

PART I

INQUIRIES INTO FITNESS OF HOLDERS OF CERTIFICATES

1. The tribunal holding an inquiry under section one hundred and fifty of this Act shall consist of a person or persons appointed by the Minister, and may conduct the inquiry either alone or with the assistance of an assessor or assessors so appointed.

2. The Minister may pay to the person or persons constituting the tribunal and to any assessor appointed to assist the tribunal such remuneration and allowances as the Minister may, with the approval of the Treasury, determine.

3. The inquiry shall be public and shall be held at such place as the Minister may appoint.

4. The Minister shall, before the beginning of the inquiry, furnish to the person whose fitness to continue to hold a certificate is to be inquired into a statement of the case on which the inquiry is instituted.

5. The said person may appear at the inquiry either in person or by counsel, solicitor or agent, and may give evidence and call such witnesses as he thinks fit.

6. At the conclusion of the inquiry the tribunal shall send to the Minister a report containing a full statement of the case and the opinion of the tribunal thereon and such report of, or extracts from, the evidence as the tribunal thinks fit.

7. The tribunal shall, for the purposes of the inquiry, have power—

(a) to enter and inspect any place or building the entry or inspection of which appears to the tribunal requisite for the said purposes;

(b) by summons signed by the tribunal to require any person to attend, at such time and place as is specified in the summons, to give evidence or to produce any documents in his custody or under his control which the tribunal considers it necessary for the purposes of the inquiry to examine;

(c) to require a person appearing at the inquiry to furnish to any other person appearing thereat, on payment of such fee, if any, as the tribunal thinks fit, a copy of any document offered, or proposed to be offered, in evidence by the first-mentioned person;

(d) to take evidence on oath, and for that purpose to administer oaths, or, instead of administering an oath, to require the person examined to make and subscribe a declaration of the truth of the matter respecting which he is examined;

(e) to adjourn the inquiry from time to time; and

(f) subject to the foregoing sub-paragraphs, to regulate the procedure of the tribunal.

8. A person attending as a witness before the tribunal shall be entitled to be paid by the Minister such expenses as would be allowed to a witness attending on subpoena before a court of record, and any dispute as to the amount to be so allowed shall be referred by the tribunal to a master of the Supreme Court who, on request signed by the tribunal, shall ascertain and certify the proper amount of the expenses.

9. The tribunal may make such orders as it thinks fit respecting the payment of the costs and expenses of the inquiry and any such order shall, on the application of any person entitled to the benefit thereof, be enforceable by a magistrates' court as if the amount ordered to be paid were a sum adjudged to be paid by an order of that court.

10. If a person—

- (a) without reasonable excuse (proof whereof shall lie on him) fails, after having the expenses (if any) to which he is entitled tendered to him, to comply with any summons or requisition of the tribunal; or
- (b) does any other thing which would, if the tribunal had been a court of law having power to commit for contempt, have been contempt of that court;

the tribunal may, by instrument signed by it, certify the offence of that person to the High Court or, in Scotland, the Court of Session, and the High Court or Court of Session may thereupon inquire into the alleged offence and after hearing any witnesses who may be produced against or on behalf of the person charged with the offence, and after hearing any statement that may be offered in defence, punish or take steps for the punishment of that person in like manner as if he had been guilty of contempt of the High Court or, as the case may be, the Court of Session.

PART II

DELIVERY UP AND CUSTODY OF CERTIFICATES IN CONNECTION WITH PROSECUTIONS AND INQUIRIES

11. The holder of any such certificate as is mentioned in section one hundred and fifty of this Act may, after notice of intention to make an application under subsection (1) of the said section one hundred and fifty has been duly served on him, be required by the court dealing with an information or trying an indictment for an offence alleged to have been committed by him, or may be required by a tribunal making inquiry under the said section one hundred and fifty, to deliver up his certificate to the court or, as the case may be, the tribunal at the hearing.

12. A certificate so delivered up may be retained by the court or tribunal until the conclusion of the proceedings:

Provided that a certificate delivered up to the court shall be returned to the holder thereof on his making an election under paragraph (b) of the proviso to subsection (1) of the said section one hundred and fifty.

13. Where the court or tribunal cancels or suspends a certificate it shall, at the conclusion of the proceedings, send the Minister notice thereof and shall also send him the certificate for retention by him.

14. Where on an appeal (whether by way of case stated or otherwise) the conviction of the holder of the certificate is quashed or the cancellation or suspension thereof is quashed or varied, the court by which the conviction is quashed or the appeal is allowed shall send notice thereof to the Minister:

Provided that where on an appeal by way of case stated the High Court remits the matter to a magistrates' court or a court of quarter sessions, notice of the order of the court on the remission shall be sent to the Minister by the magistrates' court or court of quarter sessions, as the case may be.

15. Where a certificate has been sent to the Minister under paragraph 13 of this Schedule, he shall—

- (a) on receipt of a notice that the conviction of the holder thereof, or the cancellation or suspension thereof, has been quashed; or
- (b) on the expiration of any period for which the certificate stands suspended (whether after conviction or appeal);

return the certificate to the holder.

16. For the purposes of this Part of this Schedule, the bringing of proceedings before the High Court to quash a conviction by order of certiorari shall be deemed to be an appeal.

PART III

MODIFICATIONS OF PARTS I AND II FOR PURPOSES OF THEIR APPLICATION TO SCOTLAND

17. In the application of this Schedule to Scotland,—

- (a) for references to a master of the Supreme Court, to a witness attending on subpoena before a court of record, to a summons and to an information there shall be respectively substituted references to the Auditor of the Court of Session, to a witness attending on citation the High Court of Justiciary, to an order and to a summary complaint;
- (b) an order under paragraph 9 of this Schedule may be recorded in the Books of Council and Session for execution and may be enforced accordingly.

FOURTH SCHEDULE (SECTION 188)

MINOR AND CONSEQUENTIAL AMENDMENTS OF ENACTMENTS

The Coal Mines Regulation Act, 1887

50 & 51 Vict. c. 58

In sections twelve and thirteen (which relate respectively to the payment of persons employed in mines by weight and to the appointment of check weighers on their behalf) the word 'agent', wherever it occurs, shall be omitted.

The Coal Mines (Check Weigher) Act, 1894

57 & 58 Vict. c. 52

In section one (which penalizes interference with the office of check weigher) the word 'agent', wherever it occurs, shall be omitted.

The Coal Mines (Weighing of Minerals) Act, 1905

5 Edw. 7. c. 9

In subsection (2) of section one (which relates to evidence of the appointment of check weighers) the word 'agent' shall be omitted,

The Coal Mines Regulation Act, 1908

8 Edw. 7. c. 57

In sections one, two, three, five and six (which impose limits on the hours of work below ground in mines of coal, stratified ironstone, shale and fireclay and provide for ancillary matters) the words 'owner, agent or', wherever they occur, shall be omitted, and in subsection (7) of section one the words 'fireman, examiner or', in both places where they occur, shall be omitted.

The Education Act, 1918

8 & 9 Geo. 5. c. 39

For paragraphs (b) and (c) of section fourteen (which prohibits the employment of children in factories, mines and quarries in England and Wales) there shall be substituted the following paragraph:

"(b) at any mine or quarry within the meaning of the Mines and Quarries Act, 1954,".

The Education (Scotland) Act, 1918

8 & 9 Geo. 5. c. 48

For paragraphs (b) and (c) of section seventeen (which prohibits the employment of children in factories, mines and quarries in Scotland) there shall be substituted the following paragraph:

"(b) at any mine or quarry within the meaning of the Mines and Quarries Act, 1954,".

The Mining Industry Act, 1920

10 & 11 Geo. 5. c. 50

In subsection (3) of section eighteen (which relates to the making of drainage schemes with respect to groups of mines) for the words "The provisions of sections eighty-six and one hundred and seventeen of, and Part I of the Second Schedule to, the Coal Mines Act, 1911, which relate to general regulations shall apply with the necessary modifications to schemes under this section" there shall be substituted the words "The provisions of Parts I and III of the Second Schedule to the Mines and Quarries Act, 1954, shall, with the necessary modifications, have effect with respect to the procedure for making a scheme under this section as they have effect with respect to the procedure for making general regulations under that Act, and the power conferred by this section to make a scheme shall be construed as including power (exercisable in the like manner and subject to the like conditions) to revoke or vary the Scheme."

References in the said section eighteen to owners of mines shall be construed in like manner as if they were contained in this Act.

The Employment of Women, Young Persons and Children Act, 1920

10 & 11 Geo. 5. c. 65

In subsection (6) of section one (which subsection relates to the enforcement of the restrictions imposed by other provisions of that section on the employment of children and young persons in industrial undertakings) the reference to coal mines, metalliferous mines and quarries shall be construed as a reference to

mines and quarries within the meaning of this Act and the reference to the Coal Mines Act, 1911, and the Metalliferous Mines Regulation Acts, 1872 and 1875, shall be construed as a reference to this Act.

The Mining Industry Act, 1926

16 & 17 Geo. 5. c. 28

In section twenty-three (which requires the giving of facilities to the Department of Scientific and Industrial Research where shafts or bore-holes are sunk) in subsections (3) and (4), the word 'agent' shall be omitted, and for subsection (5) there shall be substituted the following subsection:

"(5) Any officer appointed by the Committee shall have the same rights as to the production and inspection of plans, sections and drawings which, by or by virtue of the Mines and Quarries Act, 1954, are required to be kept, as are by that Act conferred on inspectors, and that Act shall apply accordingly."

The Petroleum (Production) Act, 1934

24 & 25 Geo. 5. c. 36

In section seven (which relates to the inspection of plans and sections of mines for the purpose of ascertaining on behalf of the Minister the position of workings through or near which it is proposed to sink a bore-hole for the purpose of searching for or getting petroleum), for the words from 'the same rights' to the end of the section, there shall be substituted the words "the same rights as to the production and inspection of plans, sections and drawings which, by or by virtue of the Mines and Quarries Act, 1954, are required to be kept, as are by that Act conferred on inspectors, and that Act shall apply accordingly."

The Hours of Employment (Conventions) Act, 1936

26 Geo. 5. & 1 Edw. 8. c. 22

In subsection (2) of section one (which subsection relates to the enforcement of the restrictions imposed by that section on the employment of women by night in industrial undertakings) the reference to coal mines, metalliferous mines and quarries shall be construed as a reference to mines and quarries within the meaning of this Act and the reference to the Coal Mines Act, 1911, and the Metalliferous Mines Regulation Acts, 1872 and 1875, shall be construed as a reference to this Act.

The Young Persons (Employment) Act, 1938

1 & 2 Geo. 6. c. 69

For subsection (3) of section three (which relates to the enforcement of the provisions of Part I of that Act) there shall be substituted the following subsection:

"(3) An inspector appointed under the Mines and Quarries Act, 1954, shall have the same powers and duties for the purpose of the enforcement of the provisions of this Part of this Act in their application to young persons employed at or in connection with a mine or quarry within the meaning of the said Act of 1954 as he would have if those provisions were provisions of that Act."

FIFTH SCHEDULE (SECTION 189)

ENACTMENTS REPEALED

Session and Chapter	Short Title	Extent of Repeal
46 & 47 Vict. c. 31	The payment of Wages in Public Houses Prohibition Act, 1883	In section two, the words from 'nor any person' to the end of the section.
50 & 51 Vict. c. 58	The Coal Mines Regulation Act, 1887	In section twelve, in subsection (1), the word 'agent', wherever it occurs, and subsection (2). In section thirteen, in subsection (2), the word 'agent' and the words 'against this Act', in subsection (3) the word 'agent', in subsection (4), the word 'agent' wherever it occurs, in subsection (5), the word 'agent' and, in subsection (8), the word 'agent' and the words 'against this Act'.
57 & 58 Vict. c. 52	The Coal Mines (Check Weigher) Act, 1894	In section one, the word 'agent', wherever it occurs, and the words 'against the Coal Mines Regulation Act, 1887'.
5 Edw. 7. c. 9	The Coal Mines (Weighing of Minerals) Act, 1905	In section one, in subsection (2), the word 'agent'.
8 Edw. 7. c. 57	The Coal Mines Regulation Act, 1908	In section one, in subsection (3), the words 'owner, agent or', in subsection (4), the words 'owner, agent or', in subsection (5), the words 'owner, agent or' and, in subsection (7), the words 'fireman, examiner or' in both places where they occur. In section two, in subsection (1), the words 'owner, agent or' and, in subsection (2), the words 'owner, agent or'. In section three, in subsection (1), the words 'owner, agent or' and, in subsection (2), the words 'owner, agent or'. In section five, the words 'owner, agent or'. In section six, the words 'owner, agent or'. In section seven, in subsection (1), the words from the beginning to 'Provided that', and subsection (2).
1 & 2 Geo. 5. c. 50	The Coal Mines Act, 1911	The whole Act.
4 & 5 Geo. 5. c. 22	The Coal Mines Act, 1914	The whole Act.
6 & 7 Geo. 5. c. 31	The Police, Factories, &c., (Miscellaneous Provisions) Act, 1916	Section ten.

Session and Chapter	Short Title	Extent of Repeal
10 & 11 Geo. 5. c. 50	The Mining Industry Act, 1920	Sections nineteen and twenty-one. In section twenty-five, the definitions of 'owner', 'agent' and 'management'.
13 & 14 Geo. 5. c. 42	The Workmen's Compensation Act, 1923	Section twenty-eight.
16 & 17 Geo. 5. c. 28	The Mining Industry Act, 1926	Section twenty-one. In section twenty-three, in subsection (3), the word 'agent' and, in subsection (4), the word 'agent'.
26 Geo. 5 & 1 Edw. 8 c. 22	The Hours of Employment (Conventions) Act, 1936	Section two.
1 Edw. 8 & 1 Geo. 6. c. 62	The Coal Mines (Employment of Boys) Act, 1937	The whole Act.
1 Edw. 8 & 1 Geo. 6. c. 67	The Factories Act, 1937	In section one hundred and fifty-one, subsection (5). In section one hundred and fifty-eight, subsections (1) to (3).
6 & 7 Geo. 6. c. 6	The Workmen's Compensation Act, 1943	Section four.
12 & 13 Geo. 6. c. 53	The Coal Industry Act, 1949	Part II. In section thirteen, in subsection (2) the words from 'and the Coal Mines Acts, 1887 to 1943' to the end of the subsection.

PART B

GENERAL REGULATIONS ORDERS APPROVALS, ETC. APPLICABLE TO MINES OF COAL

NOTE.—It is important to read Paragraphs 2, 4, 5, 8 and 9 of the introduction to this volume before studying the Regulations and Orders

1. THE COAL AND OTHER MINES (MANAGERS AND OFFICIALS) REGULATIONS, 1956

By the Coal and Other Mines (Managers and Officials) Order, 1956 (S.I. 1956 No. 1758), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Managers and Officials) Regulations, 1956.

The order provides that any exemption, consent, approval, certificate or requirement granted or imposed for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted or imposed for the purposes of these regulations, have effect as if it had been so granted or imposed:

Coal Mines Act, 1911, sections 14, 15, 17, 63, 64, 65 and 66 (as amended by the Coal Mines (Officials and Inspections) General Regulations, 1951).

General Regulations, dated 10th July, 1913 (S.R. & O. 1913, No. 748), Regulations 30, 36 to 38, 40, 42 to 45, 104, 180, 182 and 184.

Coal Mines (Officials and Inspections) General Regulations, 1951 and 1952 (S.I. 1951, No. 848; S.I. 1952, No. 845).

Coal Mines (Miscellaneous) General Regulations, 1953, Regulation 1 (S.I. 1953, No. 1098).

PART I

Application

1. These regulations shall apply to every mine of coal . . . and in these regulations, unless otherwise expressly provided, 'mine' means such a mine.

PART II

Miscellaneous duties of managers and under-managers

2. The manager of every mine and any under-manager thereof to the extent of his jurisdiction shall take such steps as may be necessary to secure that a sufficient supply of suitable materials and appliances is at all times readily available for ensuring compliance with all requirements imposed by or under the Act and the safety of the mine and of persons employed therein.

3. The manager of every mine and any under-manager thereof to the extent of his jurisdiction shall give attention to and cause to be carefully investigated any representation or complaint made to him by or on behalf of persons employed thereat about any matter affecting the safety or health of such persons.

4. The manager of every mine shall make and ensure the efficient carrying out of arrangements whereby a correct record of the number of persons going below ground and returning above ground is made daily by a competent person appointed by him.

5. Every under-manager of a mine to the extent of his jurisdiction and, as respects any part of a mine which is not within the jurisdiction of an under-manager, the manager thereof shall make and maintain arrangements for conferring daily on matters arising in the carrying out of their duties with the deputies of the mine and other officials having charge of operations carried on below ground:

Provided that to the extent that there are officials superior to the deputies and to such other officials it shall be sufficient for the under-manager or manager, as the case may be, so to confer with those superior officials.

6. Every under-manager of a mine to the extent of his jurisdiction and, as respects any part of a mine which is not within the jurisdiction of an under-manager, the manager thereof shall from time to time examine all parts of the mine which are required to be ventilated whether or not they are frequented by workmen employed thereat.

PART III

Underground officials superior to the deputies

7. No person shall be qualified to be appointed under subsection (1) of section thirteen of the Act, or to be, an underground official superior to the deputies but inferior to the manager and, where there is an under-manager, to the under-manager unless—

- (a) he is the holder of a first class or second class certificate of competency valid with respect to that mine; or
- (b) he is the holder of a deputy's certificate granted by the Minister on the recommendation of the Mining Qualifications Board* and, in the case of a person so recommended after written examination, has attained the age of twenty-four years and had not less than one year's experience as a deputy, or, in any other case, has attained the age of twenty-seven years and had not less than two years' experience as a deputy; or
- (c) he is the holder of a certificate given under sub-paragraph (d) of paragraph (1) of regulation eighteen of the Coal Mines (Officials and Inspections) General Regulations, 1951 (being a certificate relating to his service as such an official before the coming into operation of that regulation).

8. (1) Every underground official superior to the deputies but inferior to the manager and, where there is an under-manager, to the under-manager shall to the extent of his jurisdiction have the duty of securing compliance with all requirements imposed by or under the Act and the safe performance of all operations.

(2) Every such official shall—

- (a) during each shift of his confer with the deputy assigned to each district and with each other official then performing duties in or responsible for any part of the mine, being a district or part to which his jurisdiction extends;
- (b) at the end of each shift of his give to any person succeeding to any of his duties all information he has obtained which is relevant to safety; and

*See the Board's rules relating to these certificates on page 345.

- (c) within twenty-four hours of the end of each shift of his examine and counter-sign any report made by such a deputy in relation to that shift by virtue of regulation twenty-five of these regulations.

PART IV

Deputies

General duties of deputies

9. (1) In every mine competent persons appointed by the manager as deputies shall each during his shift in the district assigned to him—

- (a) have the immediate charge of the workmen for the time being in that district and of all operations carried on by them therein; and
- (b) make such inspections and carry out such other duties with regard to the presence of gas, ventilation, support of roof and sides and general safety (including the health of persons working in that district) as are required by the Act or by regulations (including these regulations).

(2) Subject to the provisions of the next following paragraph, every deputy to whom a district is assigned shall devote his whole time during his shift to the duties specified in the last preceding paragraph.

(3) Paragraph (2) of this regulation shall not prevent any deputy being employed in firing shots or apply in relation to the deputy in any district—

- (a) being a district exempted therefrom by a notice served on the manager by an inspector on the ground of the special circumstances of that district; or
- (b) in a mine at which not more than thirty persons are employed below ground, if the number of persons at work in that district during the shift concerned does not exceed ten; or
- (c) in any mine if the number of persons at work in that district during the shift concerned does not exceed five:

Provided that no duty shall be assigned to the deputy by virtue of this paragraph if performance of that duty would prevent the deputy carrying out the duties specified in paragraph (1) of this regulation in a thorough manner, and an inspector may serve a notice on the manager requiring that such a duty shall not be so assigned if he is of opinion that performance thereof would be likely to prevent the deputy so carrying out those duties.

(4) No deputy shall at any time perform any duty himself or allow any workman in his charge to do any work, not being a duty or work the carrying out of which is necessary for securing the safety or health of workmen employed at the mine, if so doing would prevent or delay the due carrying out of any duty or work necessary for that purpose.

Determination of deputies' districts

10. (1) The manager of every mine shall define, by means of a plan on a scale not less than six inches to one mile kept at the office at the mine or at such other place as may be approved by an inspector, the limits of each district in the mine* to be in the charge of a deputy (hereinafter referred to as 'a deputy's district') in such manner that—

*Except in relation to a shaft in the course of being sunk (see Regulation 32 (2)).

- (a) there is included within the limits of a deputy's district every place in the mine at which mineral is worked, other than a place at which mineral is worked for the purpose of repairing, restoring or enlarging a road or preparing accommodation required for the working of the mine; and
- (b) no deputy's district is of a size which may prevent a deputy assigned thereto making the pre-shift inspections referred to in regulation twelve within a period of one-and-a-half hours if he is not interrupted in so doing.

(2) Different districts may be defined in relation to different shifts or different days of the week or both of them having regard to the nature of the work to be carried out thereon.

(3) If an inspector is of opinion that any deputy's district so defined is of a size which may prevent or prejudice the carrying out by a deputy assigned thereto of all his duties in a thorough manner, the inspector may serve on the manager a notice requiring him to reduce the size of that district.

(4) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph and the relevant ground of objection to such a notice shall be that the size of that deputy's district does not prevent or prejudice the carrying out by the deputy assigned thereto of all his duties in a thorough manner.

11. It shall be the duty of the manager to secure that a deputy is assigned to each deputy's district for each shift during which any workman is to go into that district.

Pre-shift inspections

12. (1) Within the period of two hours* immediately before the commencement of work on any shift during which workmen will enter a deputy's district, the deputy to whom that district is assigned for that shift or for the last preceding shift shall himself ascertain by inspection of every part of it which is required to be ventilated (hereinafter referred to as 'pre-shift inspection') the condition of every such part as regards the presence of gas, ventilation, state of roof and sides and general safety :

Provided that during any period in which workmen are continuously in the district since the last preceding pre-shift inspection it shall be sufficient for such an inspection to be made at intervals not exceeding eight hours.

(2) Every deputy making a pre-shift inspection shall have with him a locked flame safety-lamp and a locked electric safety-lamp or a locked safety-lamp combining those two, being in every case a lamp for the time being approved† by the Minister for the purpose of deputies' inspections, and he shall not use any other lamp during his inspection. . . .

(3) A deputy may be accompanied during any pre-shift inspection by one competent workman as an assistant. Such a workman shall not use during that inspection any lamp other than a locked safety-lamp of a type for the time being approved by the Minister for general use by workmen.

*See Regulation 32 (3) as regards shafts in the course of being sunk.

†See page 177.

(4) For the purposes of this regulation as regards any deputy's district a reference to a deputy assigned thereto for the last preceding shift shall include a deputy assigned to a deputy's district which comprised that district and the deputies assigned to deputies' districts which or parts of which together comprised that district.

Meeting stations

13. (1) The manager shall fix by means of a plan referred to in regulation ten a station at an entrance to every deputy's district* (hereinafter referred to in relation to that district as 'the meeting station') and shall ensure that notices indicating the position of every meeting station are kept posted at such suitable places and in such characters as to be easily seen.

(2) An inspector may, if he is of opinion that the position of any meeting station does not provide adequately for the safety of the workmen, serve on the manager a notice requiring him to alter the position thereof.

(3) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph and the relevant ground of objection to such a notice shall be that the position of the meeting station fixed by the manager provides adequately for the safety of the workmen.

14. (1) No workman shall pass beyond the meeting station of or enter any deputy's district (except in pursuance of paragraph (3) of regulation twelve) unless he is instructed to do so by the deputy assigned to that district or a district comprising or comprised in that district or he does so in pursuance of an arrangement made by the manager.

(2) A deputy shall not instruct any workman to pass beyond the meeting station or enter a district unless he has made, or is satisfied that another deputy has made, any pre-shift inspection required by these regulations to be made before that workman commences work and he is satisfied that, having regard to any instruction he gives to that workman relating to his safety, that workman can safely enter the district.

(3) The manager shall not make arrangements for any workman to pass beyond the meeting station or enter any deputy's district (otherwise than in pursuance of the last preceding paragraph) except arrangements which will operate only when a workman will already be in the district and any such arrangements shall be subject on any occasions to any instruction given by a deputy.

Inspections during shifts

15. (1) †Every deputy to whom a deputy's district is assigned for any shift shall at least twice during that shift inspect every part of that district which is required to be ventilated to ascertain the condition thereof as regards the presence of gas, ventilation, state of roof and sides and general safety in such manner that—

(a) no place at which workmen are at work shall remain uninspected for more than four hours; and

*Except in relation to a shaft in the course of being sunk (see Regulation 32 (2)).

†See Regulation 32 (4) as regards shafts in the course of being sunk.

(b) he inspects any part of the district, which has remained for a period of two hours after the pre-shift inspection without workmen being at work therein, not more than two hours before workmen are to re-enter it.

(2) Nothing in the last preceding paragraph shall require the inspection under this regulation of a development working which the manager has caused to be marked with a notice to the effect that work therein is for the time being discontinued.

(3) Paragraphs (2) and (3) of regulation twelve shall apply to an inspection under this regulation as they apply to a pre-shift inspection.

(4) A pre-shift inspection made during any shift may be taken into account also as an inspection made under this regulation during that shift.

Miscellaneous duties of deputies

***16.** Without prejudice to the generality of section thirty-three of the Act, the deputy to whom a deputy's district is assigned for any shift shall ensure that any place therein which is for the time being dangerous by reason of the presence of gas or from any other cause is so fenced off at each approach as to prevent any person from accidentally entering it and that each such fence is marked with a danger sign provided by the owner of the mine.

17. Every deputy to whom a deputy's district is assigned for any shift shall immediately before going below ground for that shift and upon returning to the surface after it read the barometer provided in pursuance of subsection (1) of section sixty of the Act.†

18. Every deputy to whom a deputy's district is assigned for any shift shall—

(a) record the names of the workmen under his charge in that district during that shift; and

(b) take all reasonable steps to ensure that such workmen understand and carry out any duties which fall to be performed by them in order to secure compliance with all requirements imposed by or under the Act or to secure the safety or health of any person employed at the mine.

19. Every deputy to whom a deputy's district is assigned shall take all reasonable steps to ensure that—

(a) all machinery, apparatus and other equipment in use in that district is properly maintained; and

(b) no machinery, apparatus or equipment which is found by or reported to him to be in an unsafe condition is used while in that condition.

***20.** A deputy to whom any district is assigned (otherwise than during the temporary absence of another deputy) shall, where not less than two ways of egress therefrom or from any place therein are required under section twenty-four of the Act, forthwith make himself acquainted with two such ways from the district and from any such place therein, and shall thereafter travel along the whole of each of them once at least in each month during which that district is assigned to him.

*This Regulation does not apply to shafts in the course of being sunk (see Regulation 32 (5)).

†See also Regulation 25 which requires the readings to be recorded.

21. (1) A deputy to whom any district is assigned for any shift shall not leave that district while workmen remain in it unless he has committed the charge of those workmen to a competent person, who shall during the absence of the deputy perform the functions of the deputy.

(2) Nothing in the last preceding paragraph shall be construed as relieving the deputy from any responsibility imposed on him by or under the Act or in particular as relieving the deputy from himself making the inspections and reports required by these regulations.

Deputies' duties on conclusion of shift

***22.** Every deputy to whom a deputy's district is assigned for any shift shall at the end of that shift, unless there is any person then in that district for a succeeding shift, ensure that in that district—

(a) the ventilation is taking its proper course; and

(b) all lights are extinguished and any supply of electricity is cut off, except any light or supply of which the continuance is necessary for the safety of the mine;

Provided that if workmen are due to arrive in that district for a succeeding shift not more than thirty minutes after the departure of the last workman in the shift to which that deputy is assigned this regulation shall not require the extinction of any fixed electric lights.

***23.** A deputy to whom a deputy's district is assigned for any shift shall not leave the mine at the end of that shift if any workman is due to arrive in that district for a succeeding shift within one hour after the departure of the last workman in the shift to which that deputy is assigned until he has conferred with the deputy succeeding him and has given that deputy all information in his possession necessary for the safety of persons who will be employed in the district.

Deputies' reports

24. (1) Every deputy who has made a pre-shift inspection shall forthwith upon the completion thereof record and sign in a book† provided by the owner of the mine for the purpose a full and accurate report thereof which shall, except in so far as it consists of printed matter, be in his own handwriting, and which in particular shall specify—

(a) the condition of roof and sides and of the ventilation in the district; and

(b) whether or not he has found therein any inflammable or noxious gas or other source of danger and if found particulars thereof.

(2) A copy of every report made under this regulation shall be posted at the pithead not later than ten o'clock in the morning of the day following that on which the report was made and shall be kept posted there until ten o'clock in the morning of the next following day.

25. Every deputy to whom a deputy's district is assigned for any shift shall forthwith after the end of that shift record and sign in a book provided by the owner of the mine for the purpose a full and accurate report‡, which shall,

*See Regulation 32 (6) as regards shafts in the course of being sunk.

†M. & Q. Form No. 231 (42).

‡M. & Q. Form No. 232 (42A).

except in so far as it consists of printed matter, be in his own handwriting, upon the performance of all his duties during that shift, and such report shall include any information in his possession which is material to the proper working of the mine or to the safety or health of persons who may be employed in that district, and the readings of the barometer made by him in pursuance of regulation seventeen.

Qualifications of deputies

26. (1) *No person shall be qualified to be appointed, or to be, a deputy unless he is the holder of—

- (a) a first or second class certificate of competency valid with respect to that mine; or
- (b) a deputy's certificate granted by the Minister on the recommendation of the Mining Qualifications Board†; or
- (c) a certificate given under subsection (2) of section fifteen of the Coal Mines Act, 1911 (as amended by regulation fifteen of the Coal Mines (Officials and Inspections) General Regulations, 1951), being a certificate relating to his service as a deputy before the coming into operation of that regulation.

(2) No person shall be qualified to be appointed, or to be, a deputy unless he has within the last preceding five years obtained a certificate‡ that he was then able to recognise the various gas caps formed in a flame safety-lamp in atmospheres containing one and one-quarter per cent by volume of inflammable gas and more, and able in so far as concerned his hearing to carry out his duties efficiently, being a certificate granted by a university or university college or by a school, college or institution maintained or assisted by a local education authority or by another body approved§ by the Minister for that purpose:

. . . .

(3) No person shall be qualified to be appointed, or to be, a deputy unless he has within the last preceding five years obtained a certificate of proficiency in first aid granted by a society or body approved|| by the Minister for the purpose:

Provided that this paragraph shall not apply to a person who is the holder of a certificate referred to in sub-paragraph (c) of paragraph (1) of this regulation.

(4) The expenses incurred by a person who is employed as a deputy at a mine in obtaining a certificate described in either of the two last preceding paragraphs shall be borne by the owner of that mine.

(5) Every certificate required by the preceding provisions of this regulation to be held as a qualification by any person for the time being appointed a deputy at any mine shall be kept at the office at that mine or at such other place as may be approved by an inspector.

*See Regulation 32 (7) as regards shafts in the course of being sunk.

†See the Board's rules relating to these certificates on page 345.

‡M. & Q. Form No. 233 (153).

§No other bodies have been approved for this purpose.

||See page 279.

27. (1) If in the case of a mine at which not more than thirty persons are employed below ground the number of persons employed thereat who may be appointed deputy in accordance with the provisions of the last preceding regulation is less by reason of sickness, holidays or other temporary cause than the number for the time being requisite for the full working of the mine, nothing in that regulation shall prevent any competent persons being appointed or being deputies in that mine.

(2) Nothing in this regulation shall authorise a person appointed in pursuance thereof to be a deputy for a period exceeding three months.

(3) The manager of a mine shall give to the inspector for the district notice of the making of any appointment under this regulation in respect of that mine and of the name and address of the person appointed within seven days after the making of the appointment.

PART V

Inspections outside deputies' districts

28. It shall be the duty of the manager of every mine to secure that competent persons, each of whom is qualified under regulation twenty-six to be a deputy, are appointed by him and assigned to make the inspections specified in the next following regulation.

29. A competent person appointed under the last preceding regulation shall ascertain by inspection the condition of the following parts of the mine, in so far as they are not within any deputy's district, at the times respectively specified, that is to say—

(a) at the beginning of and, in addition, at least once during each shift in which a workman is to be thereat, every working place at which—

(i) mineral is worked for the purpose of repairing, restoring or enlarging a road or preparing accommodation required for the working of the mine, or

(ii) apparatus, equipment or supports are being withdrawn in preparation for the abandonment of that place, or

(iii) any other work is done, being a place which persons do not regularly pass;

(b) at intervals not exceeding twenty-four hours, every place which persons regularly pass; and

(c) at intervals not exceeding seven days, every airway and road.

30. Every person who is assigned to make an inspection required by the last preceding regulation during any shift shall immediately before going below ground for that shift and upon returning to the surface after it read the barometer provided in pursuance of subsection (1) of section sixty of the Act.

31. Every person who has made an inspection required by regulation twenty-nine during any shift shall forthwith record and sign in a book* provided by the owner of the mine for the purpose a full and accurate report thereof which shall, except in so far as it consists of printed matter, be in his own handwriting, and shall include the readings of the barometer made by him in pursuance of the last preceding regulation.

*M. & Q. Form No. 234 (46A) for reports required by Regulation 29 (a) and (b), and M. & Q. Form No. 235 (46) for reports required by Regulation 29 (c).

PART VI

Special provisions relating to shafts in the course of being sunk

32. (1) In relation to a mine or part of a mine consisting of a shaft in the course of being sunk the preceding regulations shall have effect subject to the following modifications.

(2) Nothing in regulation ten or thirteen shall require a deputy's district consisting of a shaft in the course of being sunk or the meeting station in relation to such a district to be defined or fixed by means of a plan.

(3) A pre-shift inspection of such a district made in pursuance of paragraph (1) of regulation twelve (otherwise than by virtue of the proviso thereto) shall be so made as to be completed as nearly as may be immediately before the workmen are to be lowered.

(4) An inspection of such a district in pursuance of regulation fifteen shall be made whenever workmen have been withdrawn for shotfiring or any other purpose and before they are lowered again. On such an inspection the deputy may be accompanied by not more than two competent workmen as assistants.

(5) Regulations sixteen and twenty shall not apply.

(6) At the end of his shift the deputy assigned to such a district shall not be raised to the surface leaving any workmen of that shift to be raised after him, and, if his shift is to be succeeded immediately by another shift, he shall not leave the bottom of the shaft until the deputy succeeding him has been lowered thereto. Regulations twenty-one, twenty-two and twenty-three shall not apply.

(7) Notwithstanding anything in paragraph (1) of regulation twenty-six a person shall be qualified to be appointed, and to be, a deputy if—

- (a) he has attained the age of twenty-five years;
- (b) he has had not less than five years' practical experience in the sinking of shafts;
- (c) he holds the certificates required by paragraphs (2) and (3) of that regulation; and
- (d) an inspector by notice served on the manager of the mine approves the appointment:

Provided that a deputy appointed by virtue of this paragraph shall not be assigned any district as the deputy thereof other than a district consisting of a shaft in the course of being sunk.

PART VII

Interpretation

33. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say:

'the Act' means the Mines and Quarries Act, 1954;

'deputy' means a person appointed as such for the purposes of regulation nine;

'deputy's district' has the meaning assigned thereto in regulation ten;

'meeting station' has the meaning assigned thereto in regulation thirteen;

'mine' has the meaning assigned thereto in regulation one;

'pre-shift inspection' has the meaning assigned thereto in regulation twelve.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

2. THE COAL AND OTHER MINES (MECHANICS AND ELECTRICIANS) REGULATIONS, 1956

By the Coal and Other Mines (Mechanics and Electricians) Order, 1956 (S.I. 1956, No. 1759), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956.

The order provides that any exemption or requirement granted or imposed for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted or imposed for the purposes of these regulations, have effect as if it had been so granted or imposed:

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748) Regulations 131 (g) and 132 (iii).

Coal Mines (Mechanics and Electricians) General Regulations, 1954 (S.I. 1954, No. 594).

PART I

Application

1. These regulations shall apply to every mine of coal . . .

PART II

Appointment of mechanics of the mine and electricians of the mine

2. (1) For every mine there shall be appointed by the manager a competent person to be the mechanical engineer or the mechanic in charge and as many competent persons to be mechanics as may be required to supervise or effect the proper installation, examination, testing and maintenance of all mechanical apparatus* at the mine in accordance with the following provisions. The mechanical engineer or mechanic in charge and the mechanics for a mine are hereinafter referred to as 'the mechanics of the mine'.

(2) In the case of any mine at which the total number† of prime movers exceeds seventy-five the manager shall ensure that a mechanic of the mine is in charge at the mine whenever any prime mover is being used in the mine for any purpose specified in an instruction in writing given by the manager to the mechanical engineer or mechanic in charge and for the time being in force.

*As defined in Regulation 16 (1).

†See also Regulation 16 (2).

3. (1) For every mine at which electricity is used there shall be appointed by the manager a competent person to be the electrical engineer or the electrician in charge and as many competent persons to be electricians as may be required to supervise or effect the proper installation, examination, testing and maintenance of all electrical apparatus* at the mine in accordance with the following provisions. The electrical engineer or electrician in charge and the electricians for a mine are hereinafter referred to as 'the electricians of the mine'.

(2) In the case of any mine at which the total number† of electric motors exceeds seventy-five the manager shall ensure that an electrician of the mine is in charge at the mine whenever any electric motor is being used in the mine for any purpose specified in an instruction in writing given by the manager to the electrical engineer or electrician in charge and for the time being in force.

4. (1) A copy of any instruction given in pursuance of paragraph (2) of either of the two last preceding regulations and for the time being in force shall be kept at the office at the mine or at such other place as may be approved by an inspector, and if an inspector at any time so requests the manager shall send to him a copy of any such instruction.

(2) If in a case to which paragraph (2) of either of the two last preceding regulations applies an inspector is of opinion that a mechanic of the mine or an electrician of the mine, as the case may be, ought to be in charge at the mine whenever a prime mover or electric motor is being used in the mine for a purpose not specified under that paragraph, he may serve on the manager a notice requiring him to give an instruction accordingly.

(3) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph, and the relevant ground of objection to such a notice shall be that it is not necessary for a mechanic of the mine or an electrician of the mine, as the case may be, to be in charge at the mine whenever a prime mover or electric motor is being used in the mine for the purpose specified in the notice in order to secure the proper supervision of mechanical or electrical apparatus thereat.

5. Nothing in regulation two or three shall prevent a competent person being both a mechanic of the mine and an electrician of the mine.

PART III

Duties of the mechanics of the mine, the electricians of the mine and other persons concerned with mechanical or electrical apparatus

‡6. It shall be the duty of the mechanical engineer or mechanic in charge in respect of mechanical apparatus, and of the electrical engineer or electrician in charge in respect of electrical apparatus, to ensure that the mechanics of the mine or electricians of the mine, as the case may be, supervise or effect—

(a) the installation of all such apparatus at the mine;

(b) the examination and testing of all such apparatus before it is put into use after installation, re-installation or repair;

*As defined in Regulation 16 (1).

†See also Regulation 16 (2).

‡See also Nos. 15 and 59 (1) of the Shafts, Outlets and Roads Regulations, No. 24 of the Locomotives Regulations, and No. 9 of the Steam Boilers Regulations, which are expressed to be without prejudice to the generality of these two Regulations.

- (c) the maintenance in safe working condition and in accordance with all requirements imposed by or under the Act of all such apparatus at the mine; and
- (d) the systematic examination and testing of all such apparatus at the mine in accordance with the scheme therefor for the time being in operation.

*7. (1) It shall be the duty of the manager of every mine to ensure that there shall be at all times in force a scheme in respect of all mechanical apparatus at the mine, and, if electricity is used thereat, a scheme in respect of all electrical apparatus thereat, being a scheme providing for the systematic examination and testing of all mechanical apparatus or electrical apparatus (as the case may be) at the mine to ensure proper maintenance thereof.

(2) Any such scheme shall specify the intervals (which may be different for different apparatus and parts of apparatus) within which all mechanical or electrical apparatus (as the case may be) must be examined and tested and the nature of the examination and testing to be carried out on each occasion.

(3) The schemes for each mine or copies thereof shall be kept at the office at the mine or at such other place as may be approved by an inspector.

(4) If an inspector is of opinion that amendment of a scheme is necessary to ensure the proper maintenance of any mechanical or electrical apparatus at the mine, he may serve on the manager a notice requiring him to remedy the defect.

(5) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph and the relevant ground of objection to such a notice shall be that the scheme already ensures the proper maintenance of all mechanical or electrical apparatus at that mine.

8. (1) Persons, other than the mechanics of the mine and the electricians of the mine, may be instructed in writing by the manager of the mine to carry out such duties relating to—

(a) the installation, repair, examination or testing of mechanical or electrical apparatus; or

(b) the operation of any machinery or electrical apparatus; as may be specified in the instruction being duties for which they are competent.

(2) No person shall be instructed under sub-paragraph (a) of paragraph (1) of this regulation to carry out any duty for which technical knowledge and experience are necessary to avoid danger except under such degree of supervision by a mechanic of the mine or an electrician of the mine as may be appropriate having regard to the nature of the work and the knowledge and experience of the person concerned.

(3) No person shall commence any work upon any conductor, or in proximity to an exposed conductor, being in either case a conductor in a circuit in which the voltage exceeds twenty-five, until an electrician of the mine has ensured that such conductor has been made dead and has taken any necessary steps by earthing or otherwise to ensure that it will remain dead until he is satisfied that it is safe to restore the current:

Provided that the provisions of this paragraph shall not apply to the cleaning of commutators and slip-rings in a circuit in which the voltage does not exceed six hundred and fifty.

*See also Nos. 15 and 59 (1) of the Shafts, Outlets and Roads Regulations, No. 24 of the Locomotives Regulations, and No. 9 of the Steam Boilers Regulations, which are expressed to be without prejudice to the generality of these two Regulations.

(4) Without prejudice to the generality of the provisions of the last preceding paragraph no person shall change an electric lamp bulb unless the lamp-holder has been made dead.

9. (1) No person whose duties include the operation of any portable electrical apparatus supplied with electricity by means of a flexible trailing cable shall at any time either leave that apparatus while it is working, or leave the working place (except for the purpose of cutting off the supply of electricity to the cable) without ensuring that the cable has been made dead, unless his instructions expressly authorise him to do so.

(2) A person whose duties include the operation during his shift of any electrical apparatus supplied with electricity by means of a flexible trailing cable shall ensure, before using that cable during that shift, that so much of it as is accessible is examined, and subsequently ensure that any further parts which become accessible are examined, and shall not use any cable which is thus found to be damaged or defective.

10. (1) Without prejudice to the generality of section eighty of the Act a mechanic of the mine, in respect of mechanical apparatus, an electrician of the mine, in respect of electrical apparatus, or a person instructed under regulation eight shall stop forthwith the use of any such apparatus which it appears to him in the course of his duties may be in a dangerous condition by reason of some mechanical or electrical defect or abnormality, and cut off the supply of mechanical energy thereto or make dead the circuit or part of a circuit in which it is connected (as the case may be) and take any other necessary action to avoid danger. Unless in the case of a person instructed under regulation eight his duties include the repair of the defect and he has repaired it, that apparatus shall not be used again at the mine until a mechanic of the mine or an electrician of the mine (as the case may require) is satisfied that it is safe to do so.

(2) Without prejudice to the generality thereof the provisions of the last preceding paragraph shall apply in any case in which incendive sparking* occurs in any electrical apparatus below ground in any part of a mine in which inflammable gas, although not normally present, is likely to occur in quantities sufficient to indicate danger.

(3) Without prejudice to the generality of section eighty of the Act a mechanic of the mine, in respect of mechanical apparatus, an electrician of the mine, in respect of electrical apparatus, or a person instructed under regulation eight shall report forthwith to an official of the mine anything which it appears to him in the course of his duties may affect the safe use of any such apparatus, and which it is not part of his duties to prevent or remedy.

11. The mechanics of the mine and the electricians of the mine shall record in books† provided by the owner of the mine—

- (a) any action taken by them in pursuance of regulation ten;
- (b) a report of every examination or test of any mechanical or electrical apparatus carried out or supervised by them in pursuance of regulation six; and

*As defined in Regulation 16 (1).

†The relevant M. & Q. Forms are No. 267 (157) for mechanical plant, and No. 268 (10) for electrical plant. See also the footnotes to Nos. 15 and 59 (1) of the Shafts, Outlets and Roads Regulations, No. 24 of the Locomotives Regulations, and No. 9 of the Steam Boilers Regulations.

(c) any other information for which provision is made in such a book.

PART IV

Qualifications of the mechanics of the mine and the electricians of the mine

12. (1) No person shall be qualified to be appointed or to be the mechanical engineer or mechanic in charge or the electrical engineer or electrician in charge for a mine unless—

(a) he is at least twenty-three years of age, and is the holder, as the case may be, of a mechanical engineer's certificate or electrical engineer's certificate or a mechanic's certificate class I or electrician's certificate class I, being in any case a certificate valid with respect to that mine; or

(b) he is the holder of a service certificate showing that during a period of at least six months between the first day of April, nineteen hundred and fifty-five and the thirty-first day of December, nineteen hundred and fifty-five, he had been, as the case may be,—

(i) the mechanical engineer or mechanic in charge for a mine at which the total number of prime movers exceeded ten or in which a prime mover capable of developing more than ten horse-power was used at or within thirty feet of a working face, or

(ii) the electrical engineer or electrician in charge for a mine at which the total number of electric motors exceeded ten or in which an electric motor was used at or within thirty feet of a working face.

(2) No person shall be qualified to be appointed or to be a mechanic for a mine unless he is the holder of—

(a) a mechanical engineer's certificate or a mechanic's certificate, being a certificate valid with respect to that mine; or

(b) (i) a certificate granted by a person authorised in that behalf by the Minister showing that during a period of at least six months between the first day of October, nineteen hundred and fifty-five and the thirty-first day of December, nineteen hundred and fifty-six, he had been the mechanical engineer or mechanic in charge for a mine or had performed responsible or supervisory duties in connection with the installation, examination, testing and maintenance of mechanical apparatus at a mine at which the total number of prime movers exceeded ten or in which a prime mover capable of developing more than ten horse-power was used at or within thirty feet of a working face, and

(ii) a certificate as to his knowledge of the elementary principles of mechanical engineering granted by the Minister on the recommendation of the Mining Qualifications Board, or a certificate granted under paragraph 2 (b) (ii) of regulation twelve of the Coal Mines (Mechanics and Electricians) General Regulations, 1954.*

(3) No person shall be qualified to be appointed or to be an electrician for a mine unless he is the holder of—

*S.I. 1954 No. 594.

- (a) an electrical engineer's certificate or an electrician's certificate, being a certificate valid with respect to that mine; or
 - (b) a service certificate showing that during a period of at least six months between the first day of October, nineteen hundred and fifty-four and the thirty-first day of December, nineteen hundred and fifty-five, he had been the electrical engineer or electrician in charge for a mine or an electrician for a mine at which the total number of electric motors exceeded ten or in which an electric motor was used at or within thirty feet of a working face.
- (4) Nothing in this regulation shall apply to a mechanic of a mine or electrician of a mine, as the case may be,—
- (a) at which the total number of prime movers or electric motors does not exceed ten and in which no prime mover capable of developing more than ten horse-power or, as the case may be, electric motor is used at or within thirty feet of a working face; or
 - (b) at which not more than fourteen persons are employed below ground unless there is for the time being in force a direction given by an inspector by notice served on the manager of the mine that the mechanics of the mine or the electricians of the mine or both should hold the qualifications aforesaid, being a direction given on the ground that the nature of the mechanical apparatus or the electrical apparatus or both, as the case may be, at the mine or the conditions in which that apparatus is used thereat increase the risk of danger.

13. (1) After the thirty-first day of December, nineteen hundred and fifty-eight, no person shall be qualified to be appointed or to be the mechanical engineer or mechanic in charge or the electrical engineer or electrician in charge for a mine unless—

- (a) he is at least twenty-five years of age, and is the holder, as the case may be, of a mechanical engineer's certificate or electrical engineer's certificate, being a certificate valid with respect to that mine; or
- (b) he is the holder of a service certificate showing that—
 - (i) during a period of at least eighteen months between the first day of January, nineteen hundred and fifty-seven, and the first day of January, nineteen hundred and fifty-nine, he had been, as the case may be, the mechanical engineer or mechanic in charge for a mine at which the total number of prime movers exceeded seventy-five or the electrical engineer or the electrician in charge for a mine at which the total number of electric motors exceeded seventy-five, or
 - (ii) during a period of at least two years between the first day of October, nineteen hundred and fifty-four and the first day of January, nineteen hundred and fifty-nine, he had been, as the case may be, the mechanical engineer or mechanic in charge for such a mine or the electrical engineer or electrician in charge for such a mine.

(2) After the thirty-first day of December, nineteen hundred and fifty-eight, no mechanic for the mine or electrician for the mine shall be qualified to take charge at the mine when the mechanical engineer or mechanic in charge or the

electrical engineer or electrician in charge, as the case may be, is not on duty unless he is at least twenty-three years of age and is the holder of such a certificate as is described in paragraph (1) of regulation twelve.

(3) Without prejudice to the operation of regulation twelve, nothing in paragraph (1) or paragraph (2) of this regulation shall apply to the mechanics of a mine or electricians of a mine, as the case may be, at which the total number of prime movers or electric motors does not exceed seventy-five unless there is for the time being in force a direction given by an inspector by notice served on the manager of the mine that the mechanics of the mine or the electricians of the mine or both should hold the qualifications aforesaid, being a direction given on the ground that the nature of the mechanical apparatus or the electrical apparatus or both, as the case may be, at the mine or the conditions in which that apparatus is used thereat increase the risk of danger.

14. An inspector may by notice served on the manager of any mine exempt it from the application of any provision contained in the two last preceding regulations.

15. In this Part of these regulations—

‘mechanical engineer’s certificate’, ‘mechanic’s certificate’, ‘electrical engineer’s certificate’ and ‘electrician’s certificate’ mean certificates so entitled granted by the Minister on the recommendation of the Mining Qualifications Board* and expressed to be valid with respect to all mines or to mines of a specified class or description and, unless the context otherwise requires, ‘mechanic’s certificate’ and ‘electrician’s certificate’ include such certificates class I or class II;

‘service certificate’ means a certificate on a form provided for the purpose by the Minister signed by the manager of the mine at which the appointment referred to therein has been held and, within fourteen days of signature, authenticated by the owner of that mine or a representative of the owner superior to the manager.

PART V

General

16. (1) In these regulations, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘electrical apparatus’ includes electric cables and any part of any machinery, apparatus or appliance, being a part designed for the generation, conversion, storage, transmission or utilisation of electricity, but excludes any electric cable, machinery, apparatus or appliance or part thereof which is not used and is not intended to be used as, and does not form and is not intended to form, part of the equipment of a mine;

‘electricians of the mine’ has the meaning assigned thereto in regulation three;

*See the Board’s rules relating to these certificates on page 322.

'flexible cable' means an electric cable which is designed to be movable while in use;

'incendive sparking' means, in relation to any electrical apparatus, sparking in such circumstances that inflammable gas present in the air outside the apparatus might be ignited directly or indirectly;

'mechanical apparatus' includes any machinery, apparatus or appliance used in connection with the generation, conversion, storage, transmission or utilisation of mechanical energy and ropes, chains, permanent haulage track and rolling stock, but excludes any machinery, apparatus or appliance or part thereof which for the purposes of these regulations is electrical apparatus and anything which is not used and is not intended to be used as, and does not form and is not intended to form, part of the equipment of a mine;

'mechanical energy' means energy derived from steam, water or other fluid, wind, compressed air or gas, electricity, combustion of fuel or any other source;

'mechanics of the mine' has the meaning assigned thereto in regulation two;

'mine' has the meaning assigned thereto in regulation one;

'portable apparatus' includes electrical apparatus that is designed to be moved while working;

'prime mover' means an engine or motor which provides mechanical energy.

(2) For the purposes of ascertaining the number of prime movers or electric motors at any mine and of any provision of these regulations requiring systematic examination and testing of any mechanical or electrical apparatus, no account shall be taken of any mechanical or electrical apparatus which is surplus to ordinary requirements and which has not been issued for use or installed as a standby or which, if so issued, has been withdrawn from use for repair or otherwise and has not been re-issued.

(3) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(4) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

3. SURVEYORS AND PLANS

(a) THE COAL AND OTHER MINES

(SURVEYORS AND PLANS) REGULATIONS, 1956

By the Coal and Other Mines (Surveyors and Plans) Order, 1956 (S.I. 1956, No. 1760), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Surveyors and Plans) Regulations, 1956.

The order provides that any exemption, authority or certificate given for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been given for the purposes of these regulations, have effect as if it had been so given:

Coal Mines Act, 1911, Sections 20 and 21, as amended by the Coal Mines (Surveyors and Plans) General Regulations, 1952.

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748), Regulation 31.

Coal Mines (Surveyors and Plans) General Regulations, 1952 (S.I. 1952, No. 1846).

PART I

Application

1. These regulations shall apply to every mine of coal . . . and in these regulations 'mine' means such a mine.

PART II

Qualifications and duties of surveyors

2. (1) No person shall be qualified to be appointed or to be the surveyor for a mine unless he is the holder of—

(a) a surveyor's certificate granted by the Minister on the recommendation of the Mining Qualifications Board,* or

(b) a certificate which was a surveyor's certificate for the purposes of the Coal Mines (Surveyors and Plans) General Regulations, 1952.†

(2) No person shall be qualified to be appointed or to be the surveyor for a mine, other than a mine at which not more than thirty persons are employed below ground . . . , unless (in addition to holding such a certificate) he has had not less than three years' experience in work relating to surveys of mines, including making mine surveys and preparing plans and sections of mines therefrom, since the grant to him of such a certificate.

3. (1) It shall be the duty of the surveyor for a mine to prepare or supervise the preparation of all plans, drawings and sections of the mine which are required by Part III of these regulations to be kept.

(2) It shall be the duty of the surveyor for a mine to establish the accuracy as regards any matters which may involve substantial error or danger of any such plans, drawings and sections of the mine which have not been prepared by him or to ensure that such accuracy is established by a person who is qualified to be appointed the surveyor for that mine.

4. (1) It shall be the duty of the surveyor for a mine to ensure that working papers recording all observations or calculations which were necessarily made for the preparation or checking of any plans, drawings or sections kept by the manager by virtue of Part III of these regulations are signed by the person making them and are preserved.

(2) Where any such papers are not kept at the office at the mine or a place approved by an inspector, it shall be the duty of the surveyor for the mine to make such arrangements as will ensure that upon his ceasing to be the surveyor or upon the abandonment of the mine all such papers are transferred to the owner of the mine or to a person nominated by the owner.

*See the Board's rules relating to these certificates on page 317.

†S.I. 1952, No. 1846.

PART III

*Working plans**

†5. It shall be the duty of the manager of every mine to keep at the office at the mine or at such other place as may be approved by an inspector plans and sections in accordance with the following provisions of this Part of these regulations.

6. (1) In the case of any mine, plans and sections of the workings of which are made after the commencement of these regulations or have been made after the fifteenth day of December, nineteen hundred and fifty-two, and in the case of every mine after the thirty-first day of December, nineteen hundred and sixty-two, there shall be kept as aforesaid—

(a) a separate plan for each seam being worked in the mine showing at any times clearly and accurately the workings in that seam and all shafts, outlets, drifts or staple-pits driven from or to it up to a date not more than three months past and up to a point not more than three hundred feet from their actual positions at any time; and

(b) . . . such sections of the seams being worked in the mine as may be necessary to show any substantial variation in the thickness or character thereof, and so far as practicable such sections of the strata sunk or driven through in the mine or proved by boring as may be necessary to enable the relation between those seams to be determined at any place within the boundaries of the mine; or

(c) . . .

(2) An inspector may on account of special circumstances existing at any mine by notice served on the manager thereof exempt it from the requirement that a separate plan be kept for each seam for as long as the workings in each seam are shown on a plan and are clearly distinguished by the use of different colours or otherwise.

7. In the case in which and for the period during which the provisions of the last preceding regulation do not apply, there shall be kept as aforesaid—

(a) a plan showing at any time clearly and accurately the workings in the mine up to a date not more than three months past; and

(b) a section of the strata sunk or driven through or, if that is impracticable, a section of every seam being worked in the mine.

8. (1) Plans kept in pursuance of either of the two last preceding regulations shall show as clearly and accurately as is practicable the position of—

(a) any workings of the mine which are disused or abandoned; and

(b) any workings of any other mine (whether abandoned or not);

being workings within the boundaries of the mine or within three hundred and seventy-five feet outside any boundary (measured from any point on the boundary in a straight line on any plane) and being workings which are or are likely at any stage to be at a depth differing from the depth of workings to which the plans relate by not more than one hundred and twenty feet or which are likely at any time to contain an accumulation of water dangerous to persons working in the mine.

*See also the Coal and Other Mines (Working Plans) Rules, 1956, page 128.

†See also Regulation 3.

(2) The position of any such workings which are not disused or abandoned shall be shown up to a date not more than three months past.

9. (1) In addition to the plans and sections required by regulation six or seven there shall be kept as aforesaid at every mine a plan showing the system of ventilation in the mine and in particular the general direction of the flow of the ventilation, the points at which the quantity of air passing is measured and the principal devices for regulating the flow of the ventilation.

(2) On any such plan every airway which as regards any working face is an intake airway and which is not as regards any working face a return airway shall be coloured blue, and every airway which as regards any working face is a return airway and which is not as regards any working face an intake airway shall be coloured red.

(3) If an inspector is satisfied as regards any mine that the information required by paragraph (1) of this regulation cannot be shown fully and clearly on a plan, he may by notice served on the manager of the mine authorise the keeping in substitution therefor of such a drawing as will show the information fully and clearly.

PART IV

Geological map and sketch of the mine

10. The manager of every mine shall keep at the office at the mine or at such other place as may be approved by an inspector a geological map of the district in which the mine is situate, being a map on a scale of six inches to a mile or, if a map on so large a scale is not available, a map on the nearest scale which shows the boundaries of superficial and drift deposits.

11. The manager of every mine shall provide in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act a sketch of the mine showing the main roads and means of egress from each part of the mine to the surface and the telephone stations below ground.

PART V

*Abandonment plans**

12. (1) In the event of the abandonment of a mine or seam in a mine or of the expiration of the period of twelve months from the time at which the mine or a seam in a mine was last worked for the purpose of getting minerals or products of minerals, the person who is the owner of the mine at the time of the happenings of that event shall within three months thereafter send to the inspector for the district the plans, drawings and sections of those workings required to be kept by virtue of regulation six or seven (where such plans, drawings and sections are no longer required by regulation five to be kept at the mine or a place approved by an inspector) or an accurate copy thereof or of so much thereof as is shown by virtue of those workings, being a copy prepared by or made under the supervision of the surveyor for that mine or the person who was the surveyor when the mine was last worked or if such a person is not available a person who is qualified to be appointed surveyor for that mine.

*See also the Coal and Other Mines (Abandonment Plans) Rules, 1956, page 131.

(2) In a case in which the provisions of the last preceding paragraph apply to any mine by virtue only of the expiration of the period of twelve months from the time at which the mine or the seam therein was last worked for the purpose of getting minerals or products of minerals, an inspector may, if he is of opinion that compliance with the requirements of that paragraph is unnecessary having regard to the circumstances and to the plans, drawings and sections thereof kept at the office at the mine or at such other place as is approved by an inspector, by notice served on the owner of the mine exempt him from the obligation imposed by that paragraph by virtue of the happening of that event.

(3) In the event of the abandonment of a mine the person who is the owner of the mine at the time of the abandonment shall send to the inspector for the district with the plans, drawings and sections referred to in paragraph (1) of this regulation all working papers relating to those plans, drawings and sections required to be preserved by regulation four or accurate copies thereof.

13. The owner of a mine to whom the provisions of paragraph (1) of the last preceding regulation apply shall ensure that every plan sent to the inspector in pursuance of that paragraph is endorsed with a certificate that no further work has been carried out at the mine which would affect the accuracy of the plan being a certificate given by—

- (a) the manager of the mine or the person who was the manager when the mine was last worked; or
- (b) a person appointed by the owner for the purpose of securing the fulfilment in relation to that mine of statutory responsibilities of the owner being a person who can so certify from his own knowledge.

14. (1) The owner of a mine to whom the provisions of paragraph (1) of regulation twelve apply shall ensure that there is endorsed on or attached to every plan sent to the inspector in pursuance of that paragraph a report of the surveyor for that mine or the person who was the surveyor when the mine was last worked or, if such a person is not available, a person who is qualified to be appointed surveyor for that mine or a person who is or was employed at that mine and is the holder of a certificate specified in paragraph (1) of regulation two.

(2) Such report shall indicate the extent to which the person making it can certify the accuracy and completeness of the plan as at the date when the mine or the seam in question was last worked, the steps taken by him to ensure such accuracy and completeness and the reason for any qualification made by him and may include any information which he considers desirable for the promotion of safety.

PART VI

General

15. The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) THE COAL AND OTHER MINES (WORKING PLANS) RULES, 1956 (S.I. 1956 No. 1782)

Made by the Minister under Section 17 (2)* of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

*See page 16.

Application

1. The provisions of these rules shall apply to plans of workings in mines kept in pursuance of Part III of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956.* In these rules such a plan kept in pursuance of regulation six is referred to as 'a new plan' and such a plan kept in pursuance of regulation seven is referred to as 'an old plan'.

Scale of plans

2. Every plan to which these rules apply shall be on a scale of not less than 1/2500.

Correlation with Grid

3. Every new plan shall be orientated to and correlated with the Ordnance Survey National Grid and marked with squares corresponding to the kilometre squares shown on Ordnance Survey sheets on the scale 1/2500.

Variations in level

4. (1) Every new plan shall indicate variations in level from an assumed datum ten thousand feet below Ordnance Datum—

(a) on every length of road which is a main intake airway or a main return airway for the purposes of the Coal and Other Mines (Ventilation) Regulations, 1956†(c); and

(b) so far as they can be ascertained, on the outline of any disused or abandoned workings shown on the plan;

at horizontal intervals not exceeding three hundred feet and at any such intermediate points as are necessary to indicate any substantial change in gradient within such an interval.

(2) Every old plan shall indicate variations from Ordnance Datum or from a datum below Ordnance Datum specified on the plan on such appropriate roads in the mine and at such places thereon as to indicate the gradients and any substantial change of gradient, being variations of ten feet or multiples of ten feet.

Gradient of seam

5. (1) Every new plan shall, so far as their position can be ascertained, be marked with contour lines indicating the level of the floor of the workings in every part of the seam which is being worked, being the level relative to the assumed datum ten thousand feet below Ordnance Datum as follows, that is to say—

(a) if the gradient of the seam at no place exceeds 1:3, such lines shall show vertical variations at intervals not exceeding fifty feet; or

(b) if the gradient of the seam exceeds 1:3 at any place, such lines shall show the vertical variations of multiples of ten feet being not less than fifty feet nor more than one hundred and fifty feet.

In every case the vertical variation represented by any consecutive contour lines shall be the same throughout the plan and the lines shall be marked with the level relative to the assumed datum.

*See page 126.

†See page 169.

(2) In the case of any new plan where the level of the floor of the workings in a seam shown thereon does not change by more than fifty feet, the plan shall show the direction and rate of dip of the seam.

(3) Every old plan shall show the general direction and rate of dip of the strata.

Faults

6. Every plan to which these rules apply shall show the position, direction, extent and vertical throw, so far as they can be ascertained, of any known fault or other displacement of the seam (in the case of a new plan) or each seam (in the case of an old plan) and any known washout, roll, igneous intrusion or mineral vein affecting such seam.

Manner of showing other workings

7. On every plan to which these rules apply workings shown in pursuance of regulation eight* of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, shall be shown in outline.

External dangers to workings

8. If there is any evidence that within one hundred and fifty feet of any working in a mine there may be—

- (a) any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities) which might constitute a danger to persons in the mine;
- (b) any peat, moss, sand, gravel, silt or other material that is likely to flow when wet;

the plan of that working shall record the nature, position, thickness and extent thereof as accurately as possible and shall also record such particulars, so far as they are available, of any such rock, stratum or material within the boundaries of the mines or within three hundred and seventy-five feet outside any such boundary.

Water dams

9. Every new plan shall show, so far as they can be ascertained, the position and the dimensions of any water dam which may affect workings in the seam.

Position and level of shafts, etc.

10. (1) Every plan to which these rules apply shall show, so far as they can be ascertained, the position of and the level at the top and bottom of every shaft, outlet, drift or staple-pit giving access to the workings to which the plan relates and the level of every entrance giving access thereto from those workings.

(2) Every new plan shall show, so far as they can be ascertained, the position and the level at the top and bottom of every borehole sunk from or driven to the surface or from one seam to another which may provide evidence relevant to the workings to which the plan relates.

Boundaries

11. Every plan to which these rules apply shall show the boundaries to which it is intended that the workings shown thereon should extend.

*See page 126.

Correlation

12. Every new plan shall indicate—

- (a) the direction of the National Grid North;
- (b) the assumed datum level; and
- (c) the date on which it was commenced.

General

13. The Interpretation Act, 1889, shall apply to the interpretation of these rules as it applies to the interpretation of an Act of Parliament.

14. These rules shall come into operation at the commencement of the Act and may be cited as the Coal and Other Mines (Working Plans) Rules, 1956.

(c) THE COAL AND OTHER MINES (ABANDONMENT PLANS) RULES, 1956

(S.I. 1956 No. 1783)

Made by the Minister under Section 20 (2)* of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

1. Any copy of a plan sent to an inspector by virtue of regulation twelve† of the Coal and Other Mines (Surveyors and Plans) Regulations, 1956, shall be on a scale not less than the plan of which it is a copy.

2. Any plan or copy of a plan sent to an inspector by virtue of that regulation shall show (so far as they can be ascertained) as regards the mine or seam abandoned or disused—

- (a) the position of any pump in use below ground immediately before the mine or that seam was abandoned or was last worked for the purpose of getting minerals or products of minerals and the quantity of water being pumped by each such pump;
- (b) any variation in level on the boundaries of the workings from Ordnance Datum or from the datum below Ordnance Datum used for the purposes of the plan;
- (c) the position and extent of any area known to be water-logged; and
- (d) the position and, so far as practicable, the dimensions and method of construction of any water dam and the pressure of water being retained by it immediately before the mine or that seam was abandoned or was last worked for the purpose of getting minerals or products of minerals.

3. The Interpretation Act, 1889, shall apply to the interpretation of these rules as it applies to the interpretation of an Act of Parliament.

4. These rules shall come into operation at the commencement of the Act and may be cited as the Coal and Other Mines (Abandonment Plans) Rules, 1956.

*See page 19.

†See page 127.

4. THE COAL AND OTHER MINES (GENERAL DUTIES AND CONDUCT) REGULATIONS, 1956

By the Coal and Other Mines (General Duties and Conduct) Order, 1956 (S.I. 1956, No. 1762), made under Section 190 (1) of the Mines and Quarries Act, 1954) the provisions set out below (which re-enacted provisions of Section 74 of the Coal Mines Act, 1911, of Regulations 3, 4, 5, 9, 11, 12, 17, 19, 27 and 68 of the General Regulations of 10th July, 1913,* and of Regulation 10 of the Coal Mines (Mechanics and Electricians) General Regulations, 1954†) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (General Duties and Conduct Regulations, 1956.

1. These regulations shall apply to every mine of coal . . . and in these regulations 'mine' means such a mine.

2. (1) Without prejudice to the generality of subsection (3) of section three of the Act, every person employed at a mine shall obey any instruction relating to safety, health or welfare given to him by any person upon whom duties are laid by any regulation, being an instruction given by that person for the purpose of the performance of those duties.

(2) No person so employed shall impede or obstruct any other person in the performance of such duties.

3. (1) No person shall enter any cage at the top of or in any shaft unless authorised to do so by the banksman or by an onsetter as the case may be.

(2) No person riding in any such cage shall—

(a) interfere with or attempt to open the gates thereof; or

(b) attempt to leave such cage until it is stationary at a landing place.

(3) Nothing in paragraph (1) or sub-paragraph (a) of paragraph (2) of this regulation shall apply to a person authorised in writing by the manager to transmit signals when below ground at an entrance to a shaft and when no onsetter is in attendance at that entrance.

4. (1) Except under the authority of an official of the mine or in a case of emergency no person employed in any mine shall travel below ground to or from his work by any road other than those notified by the manager for the purpose or go into any part of the mine which it is not necessary for him to enter for the purpose of his work.

(2) Except under the authority of an official of the mine no person shall pass beyond any enclosure or barrier or danger signal or open any locked door.

(3) No person shall go into any engine house except for the performance of his duties or under the authority of an official of the mine.

5. (1) Every person engaged at any working face (including a place in a road at which ripping or work of repair is in progress) or in setting or withdrawing supports shall make a careful examination of his working place at the beginning of each period of work and at appropriate times during the course of it, and in particular after any shot has been fired thereat or nearby and after any other interruption of work:

*S.R. & O. 1913, No. 748.

†S.I. 1954, No. 594.

Provided that where several persons are working at a place together and one of them is in charge, it shall be sufficient for such examinations to be made by that person.

(2) Every person so engaged shall to the best of his power leave his working place at the end of his period of work in such condition as to allow work to be resumed there safely. If he is unable to do so, he shall, without prejudice to the generality of section eighty of the Act, fence off the place and report the matter forthwith to an official of the mine.

(3) Every person so engaged shall take any necessary steps to avoid interruption of the ventilation of the mine whether by accumulations of mineral, vehicles or stores.

6. (1) No person shall interfere with any machinery at a mine or operate any machinery required by or under the Act or by the manager of the mine to be operated in compliance with signals or which if not so required is capable of developing more than ten horse-power except—

- (a) a mechanic or electrician of the mine;
- (b) a person carrying out duties in relation thereto in pursuance of an instruction in writing by the manager;
- (c) in emergency for the purpose of cutting off the supply of power.

(2) No person shall interfere with any electrical apparatus at a mine or operate any such apparatus which works at a voltage exceeding twenty-five except—

- (a) an electrician of the mine;
- (b) a person carrying out duties in relation thereto in pursuance of an instruction in writing by the manager;
- (c) in emergency for the purpose of cutting off the supply of power.

7. No person in a mine shall brush or waft out any inflammable gas.

8. (1) No person employed below ground at a mine shall leave his working place without taking his lamp or light with him.

(2) No loose material which is burning shall be left unattended below ground otherwise than in pursuance of section seventy-nine or section eighty of the Act.

9. (1) Every person at a mine whether on the surface or below ground shall behave in an orderly manner.

(2) No person shall be at a mine in a state of intoxication or without the permission of the manager shall bring any intoxicating liquor to a mine.

(3) No person shall sleep whilst below ground in any mine or whilst in charge of any machinery or boiler upon the surface.

10. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘banksman’ and ‘onsetter’ have the meanings assigned thereto by the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956;*

*See page 152.

‘electrical apparatus’, ‘electrician of the mine’ and ‘mechanic of the mine’ have the meanings assigned thereto by the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956;*

‘mine’ has the meaning assigned thereto by regulation one.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an act of Parliament.

5. SHAFTS, OUTLETS AND ROADS

(a) THE COAL AND OTHER MINES

(SHAFTS, OUTLETS AND ROADS) REGULATIONS, 1956

By the Coal and Other Mines (Shafts, Outlets and Roads) Order, 1956 (S.I. 1956, No. 1762), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956.

The order provides that any exemption, permission, authority or prescription granted or made for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted or made for the purposes of these regulations, have effect as if it had been so granted or made:

Coal Mines Act, 1911, Section 40 (as amended by the Coal Mines (Winding and Haulage) General Regulations, 1937 and 1948 (S.R. & O. 1937, No. 143 and 1948, No. 302) and the Coal Mines (Miscellaneous) General Regulations, 1953 (S.I. 1953, No. 1098); Sections 43, 44 (as amended by the Coal Mines (Winding and Haulage) General Regulations, 1948); 46, 53 (2) and (3) and 66 (1).

General Regulations dated 1st April, 1913 (S.R. & O. 1913, No. 341).

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748). Regulations 3, 20 to 23, 25, 26, 39, 63 to 68, 79 to 81, 92 to 96, 98 to 101, 103, 172 to 174, 176, 177, 181, 183 and 186 to 190.

General Regulations dated 30th July, 1920 (S.R. & O. 1920, No. 1423).

Coal Mines General Regulations (Winding and Haulage), 1937.

PART I

Application

1. These regulations shall apply to every mine of coal . . . and in these regulations, unless otherwise expressly provided, ‘mine’ means such a mine.

PART II

Winding and haulage apparatus in shafts, staple-pits and unwalkable outlets

2. At any shaft or unwalkable outlet† which is provided at a mine for affording to persons employed below ground therein means of ingress or egress and in the case of which the vertical distance between the top of the shaft or the point

*See page 123.

†This expression, which is used frequently in these Regulations, is defined in Section 182 (1) of the Act, page 89.

at which the outlet reaches the surface, as the case may be, and the lowest entrance to the shaft or outlet exceeds one hundred and fifty feet, being a shaft or outlet at a mine at which more than thirty persons are employed below ground, the apparatus for carrying persons provided in pursuance of subsection (1) of section twenty-eight of the Act shall be mechanically operated winding apparatus* or mechanically operated rope haulage apparatus* as the case may be.

3. Where mechanically operated winding apparatus or mechanically operated rope haulage apparatus is used for carrying persons through any shaft or unwalkable outlet, the engine shall be firmly fixed and completely separated by a substantial partition from any other such engine which is or may be in use at the same time and also from any other machinery:

Provided that an inspector may by notice served on the manager of the mine exempt an engine from the requirements of this regulation.

4. Where mechanically operated winding apparatus or mechanically operated rope haulage apparatus, being apparatus installed at a shaft or unwalkable outlet after the fifteenth day of September, nineteen hundred and thirteen, comprises a drum shaft not less than ten inches in diameter, that drum shaft shall be bored longitudinally at the centre.

Brakes and indicator

5. (1) Where mechanically operated winding apparatus or mechanically operated rope haulage apparatus is used for carrying persons through a shaft, staple-pit or unwalkable outlet, there shall be provided one or more brakes on the drum or drum shaft being brakes which—

- (a) if there are two cages or carriages, will hold the drum stationary when the loads are balanced and the maximum torque is applied thereto in either direction by the engine; or
- (b) if there is only one cage or carriage, will hold the drum stationary when a fully loaded cage or carriage is half way down the shaft, staple-pit or outlet and the maximum torque is applied thereto downwards by the engine:

Provided that the Minister may by notice served on the manager of the mine exempt an engine from the requirements of this paragraph.

(2) Where such apparatus is so used, there shall be provided a suitable indicator (not being merely a mark on the rope or drum) showing the position of each cage or carriage in the shaft, staple-pit or outlet. That indicator shall be so placed as to be seen easily by the person operating the engine.

(3) Where winding apparatus or rope haulage apparatus (not being mechanically operated winding apparatus or rope haulage apparatus) is installed at a shaft or unwalkable outlet, there shall be provided on the drum or drum shaft a locking device or brake which will hold the drum stationary when a fully loaded cage or carriage is at any point in the shaft or outlet.

(4) In this regulation 'drum' and 'drum shaft' shall include a sheave and sheave shaft respectively and in relation to a shaft or staple-pit in the course of being sunk 'cage' shall include a kibble.

*These expressions, which are used frequently in these Regulations, are defined in Section 182 (1) of the Act, page 88.

Flanges and horns

6. Where mechanically operated winding apparatus or mechanically operated rope haulage apparatus is used for carrying persons through a shaft, staple-pit or unwalkable outlet, there shall be provided on the drum or sheave such flanges or horns and, if the drum is conical, such other devices as will prevent the rope from slipping off.

Prevention of overwinding

7. (1) Where mechanically operated winding apparatus or mechanically operated rope haulage apparatus is ordinarily used for carrying persons through a shaft or unwalkable outlet and the speed of winding or haulage can exceed twelve feet per second, there shall be provided an effective automatic contrivance to prevent overwinding so constructed as—

- (a) to prevent the descending cage or carriage from being landed at the lowest entrance to, or the bottom of, the shaft or unwalkable outlet at a speed exceeding five feet per second; and
- (b) to control the movement of the ascending cage or carriage to prevent danger to any persons therein.

(2) Unless such automatic contrivance is in full and fixed engagement with the engine, it shall be fully engaged whenever persons are to be carried through the shaft or outlet, and there shall be provided an automatic indicator, in such position at the top of the shaft or outlet as to be easily seen by any person transmitting signals therefrom, showing whether or not the contrivance is so engaged.

(3) The Minister may, if he is of opinion that special circumstances subsist at any mine, by notice served on the manager thereof exempt any such winding or haulage apparatus thereat from the requirements of this regulation.

Construction of cages and carriages and apparatus ancillary thereto

8. (1) No person shall be carried through a shaft or unwalkable outlet otherwise than in a cage or carriage which complies with the requirements of the next following paragraph except—

- (a) for the purposes of sinking operations; or
- (b) for the purposes of examining or repairing a shaft or outlet or any machinery or appliances therein; or
- (c) for the purposes of accompanying animals or bulky materials that cannot be raised or lowered in such a cage or carriage; or
- (d) in pursuance of a notice of exemption served by an inspector on the manager of the mine.

(2) Every cage or carriage which is used for carrying persons through a shaft or unwalkable outlet shall be covered in completely at the top, closed in at the two sides sufficiently to prevent persons or things projecting beyond the sides and provided with suitable gates at the ends and with a rigid bar easily reached by all persons in it.

9. Every cage or carriage which is used for carrying vehicles through a shaft or unwalkable outlet shall be provided with catches or other suitable contrivances to prevent them from falling out.

Guides

10. In every shaft and staple-pit provided with winding apparatus, being a shaft or staple-pit in the case of which the distance between the top thereof and the lowest entrance thereto exceeds one hundred and fifty feet, or being a shaft or staple-pit in the course of being sunk of a depth exceeding three hundred feet, guides shall be provided for the cage or kibble :

Provided that an inspector may by notice served on the manager of the mine exempt a shaft or staple-pit from the requirements of this regulation.

Keps

11. (1) In every shaft keps for supporting cages when at rest shall be provided at the highest landing to which the cages are raised, may be provided at the lowest entrance to the shaft but shall not be provided at any intermediate entrance thereto.

(2) Nothing in the last preceding paragraph shall require the provision of keps in a shaft in which the cages are raised and lowered by means of the friction of a rope on a winding sheave and the Minister may by notice served on the manager of the mine exempt any other shaft from that requirement.

(3) Keps shall be used when persons are entering or leaving a cage at a place at which they are provided.

Detaching gear

12. (1) Where mechanically operated winding apparatus is ordinarily used for carrying persons through a shaft, there shall be provided appropriate gear for detaching each cage from the rope and holding it stationary in the event of overwinding when it is ascending.

(2) The Minister may, if he is of opinion that special circumstances subsist at any mine, by notice served on the manager thereof exempt any such winding apparatus thereat from the requirements of this regulation.

Winding ropes

13. (1) No spliced rope shall be used for winding in a shaft or staple-pit in which persons are raised or lowered.

(2) No rope shall be so used for more than three and a half years :

Provided that if the Minister, having regard to the condition of the rope and to the extent to which and the circumstances in which it has been used, is satisfied that it can be used for such winding for a further period without danger, he may by notice served on the manager of the mine authorise such use of that rope for a further period.

Maintenance of shafts, staple-pits and outlets and of winding and haulage apparatus used therein

14. At every mine a competent person appointed for that purpose by the manager shall at intervals not exceeding seven days, or, in the case of a shaft or staple-pit in the course of being sunk, twenty-four hours, examine thoroughly the state of any shaft, staple-pit and unwalkable outlet through which persons are carried, and shall forthwith make and sign in a book* provided for the purpose by the owner of the mine a full and accurate report of the result of the examination.

*M. & Q. Form No. 275 (45).

15. (1) Without prejudice to the generality of regulations six and seven of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956* it shall be the duty of the manager of every mine to ensure that a scheme for the systematic examination of plant at that mine made in pursuance of the said regulation seven provides for the matters specified in the following paragraphs of this regulation.

(2) Provision shall be so made for the thorough examination† at intervals not exceeding twenty-four hours of the external parts of any winding or haulage apparatus (including any apparatus ancillary thereto) which is in use for carrying persons through any shaft, staple-pit or unwalkable outlet.

(3) Provision shall be so made for the examination† at intervals not exceeding thirty days of every rope used for carrying persons or loads through a shaft or staple-pit, in the course of which examination the rope is to be thoroughly cleaned at all places particularly liable to deterioration and at other places not more than three hundred feet apart throughout its length, and at each of these places after cleaning examination is to be made of the circumference and surface condition of the rope and for any fractures of the wires.

(4) Where an automatic contrivance to prevent overwinding is provided in pursuance of regulation seven of these regulations, provision shall be so made for testing† the operation thereof—

(a) at intervals not exceeding seven days by raising each cage or carriage so that it passes the point at which the contrivance comes into operation above the highest landing or beyond the point at which the outlet reaches the surface;

(b) at intervals not exceeding three months by attempting to land each cage when descending at an excessive speed.

For the purposes of sub-paragraph (b), the automatic contrivance may be so adjusted as to control the speed of descent at a point other than the lowest entrance to, or the bottom of, the shaft or outlet.

(5) Provision shall be so made for the thorough examination† at intervals not exceeding six months of all apparatus (including any detaching hook) provided for attaching to the rope a cage, carriage or kibble ordinarily used in a shaft, staple-pit or unwalkable outlet.

(6) Provision shall be so made for any such apparatus so used to be annealed or subjected to other appropriate heat treatment at intervals not exceeding six months:

Provided that in relation to any apparatus made of any steel which does not require heat treatment, an inspector may by notice served on the manager of the mine exempt such apparatus from the application of this paragraph.

(7) Provision shall be so made for the dismantling, cleaning and refitting of every detaching hook so used at intervals not exceeding three months.

*See page 118.

†No. 11 of the Mechanics and Electricians Regulations requires reports to be made on such examinations and tests. The appropriate M. & Q. Forms are:

Subsection (2)—No. 276(43)

” (3)—No. 277

” (4)—No. 278

” (5)—No. 279

(8) Where the efficient operation of any such detaching hook would be affected by wear of any ancillary plate or bell, provision shall be so made for the measurement of the relevant dimensions by means of calipers or gauges at intervals not exceeding thirty days.

PART III

Duties of persons operating winding apparatus and rope haulage apparatus in shafts and outlets

16. A person operating any winding apparatus or rope haulage apparatus which is used for carrying persons through a shaft or unwalkable outlet shall not leave the controlling gear when the apparatus is in motion or he has any cause to believe that anyone is in the cage, carriage or kibble.

17. (1) Every person operating any such winding or rope haulage apparatus shall at least once during his shift carefully examine the external parts of the apparatus under his charge and any apparatus ancillary thereto, unless such an examination has been carried out during his shift by another person in pursuance of paragraph (2) of regulation fifteen of these regulations.

(2) After any cessation of winding or haulage exceeding two hours the person operating any such winding or rope haulage apparatus shall, immediately before lowering or raising any person, run the cage, carriage or kibble at least once between the top of the shaft or outlet and the lowest entrance thereto for the time being in use or the bottom thereof in order to ascertain whether all the apparatus is in order.

(3) If during the course of any such examination or test or on any other occasion a person operating any such winding or rope haulage apparatus discovers any defect likely to affect the proper working of the apparatus, he shall not put the machinery in motion again until the defect has been reported to the manager, an under-manager or the official under whose direction he works and he has been instructed to operate the machinery by one of those persons.

18. Every person operating any such winding or rope haulage apparatus shall during his shift keep the apparatus under his charge cleaned and oiled, unless some other person is appointed so to do.

19. No person in charge of any winding apparatus or rope haulage apparatus with which a shaft or unwalkable outlet is provided shall allow it to be operated under his supervision (on an occasion to which subsection (1) of section forty-two of the Act does not apply)* by any person other than one authorised in writing by the manager so to do.

20. No person operating any such winding or rope haulage apparatus shall set the machinery in motion in pursuance of any signal transmitted to him which is indistinct or in pursuance of any series of signals which is or appears to him to be incomplete or inconsistent.

*Section 42 (1) applies when persons are being carried. This provision, therefore, only applies on an occasion when no person is being carried.

PART IV

Hours of employment of winding enginemen

21. A person appointed under section forty-two of the Act may be employed at a mine for more than eight hours in any day on which the duties consist of or include the operation, when persons are carried by means thereof, of mechanically or gravity operated winding apparatus with which a shaft is provided in the circumstances and subject to the conditions specified in the three next following regulations. Such a person is in this Part of these regulations referred to as a 'winding engineman'.

22. (1) Where winding is carried on at a shaft by a succession of shifts a winding engineman may, for the purpose of changing shifts, be employed on one day in the week for a period not exceeding sixteen hours, or for two shifts of eight hours each, provided that in either case—

(a) an interval of not less than eight hours elapses between the termination of his employment in one shift and the commencement of his employment in the next;

(b) the period of employment does not, on the average of any three consecutive weeks, exceed eight hours per working day.

(2) Where winding is carried on at a shaft by a succession of shifts and when on any day one of the winding enginemen is prevented from attending by illness, accident or other cause, a winding engineman may be employed for not more than twelve hours on that day, or may be employed on a system of eight-hour shifts with an interval of eight hours between each shift, provided that he shall not be so employed for more than six weeks consecutively in respect of the absence of such engineman.

(3) Where winding is carried on at a shaft by a succession of shifts, but the work during some period or periods of the day is much heavier than the work during other periods, and it is desirable in the interests of safety that the winding engineman employed during the period or periods of heavier work shall not be employed for so long a time as eight hours, then if such winding engineman is employed for any less time than eight hours during the day, a winding engineman employed during the other part of the day may be employed for a corresponding time in excess of the eight hours, but not exceeding ten hours in all.

(4) Where winding is carried on at a shaft by a succession of shifts, and the winding enginemen employed at that shaft have agreed, with the consent of the manager, to be absent in turn from the end of their shift on Saturday to the commencement of their shift on Monday, each of the winding enginemen may be employed for not more than sixteen hours both on Saturday and on Sunday in not more than two weeks in any three, or for alternate shifts of sixteen hours and twelve hours and twelve hours, or on a system of eight-hour shifts :

Provided that in any case an interval of not less than eight hours elapses between the termination of the employment in one shift and the commencement of employment in the next, and provided that notice of this arrangement is affixed by the manager in the winding engine house.

23. (1) Where at any shaft one shift only of persons descends and ascends the shaft during the day, and mineral is not wound before the descent or after the ascent of that shift, a winding engineman may be employed for not more than ten and a half hours on any day at that shaft.

(2) In any mine where only two shifts of workmen are employed below ground during a day, the one a mineral-getting shift and the other a repairing shift, and mineral is not wound or got except during the hours of the mineral-getting shift, and the total output of any such mine does not exceed on the average one hundred tons of mineral per working day, a winding engineman may be employed for a period not exceeding nine hours.

(3) Where at times when no shift of men is at work in the mine it is necessary for a person to descend the mine, and a person not otherwise employed to operate the winding apparatus is employed to lower and raise such person, the person so employed may be employed for more than eight hours but not for more than twelve hours in any day.

24. In the event of any accident to the winding apparatus or other accident interfering with the lowering or raising of workmen, or in the event of any emergency requiring the continuous attendance of a winding engineman at the engine in the interests of the safety of the men or animals in or about the mine, a winding engineman may continue to be employed after the end of his shift unless and until another winding engineman regularly employed at the same shaft is available to take his place.

25. (1) It shall be the duty of the manager of every mine to fix within the limits allowed by the Act and this Part of these regulations and to specify in a notice posted in the engine room the period of employment for each day of the week of the winding enginemen or the winding engineman for each shift as the case may be.

(2) If any period of employment exceeding eight hours in any day is fixed in pursuance of any of the preceding provisions of this Part of these regulations, reference to that provision shall be included in the notice in relation to that period of employment.

26. Every winding engineman shall on each day on which he is so employed enter in a book* provided by the owner for the purpose and kept in the engine room the times at which he began and ended his employment on each shift and if he is so employed for more than eight hours in any day by virtue of the provisions of paragraph (2) of regulation twenty-two or of regulation twenty-four, he shall enter in the book particulars of the circumstances in which he was so employed.

PART V

Provisions relating to carriage of persons and things through shafts

Banksmen and onsets

27. (1) At every mine where persons are carried through a shaft the manager shall make and secure the efficient carrying out of arrangements whereby a competent person appointed by him for the purpose (hereinafter referred to as 'the banksman') is in attendance for the purpose of receiving and transmitting signals at the landing in use at the top of the shaft—

(a) whenever any person is about to be lowered through that shaft; and

(b) whenever any person who is to be raised through that shaft is below ground.

*M. & Q. Form No 280 (51)

(2) At every mine where persons are carried through a shaft the manager shall make and secure the efficient carrying out of arrangements whereby whenever any person who is to be raised through that shaft is below ground a competent person appointed by him for the purpose (hereinafter referred to as 'an onsetter') is in attendance for the purpose of receiving and transmitting signals at the entrance to that shaft from which any such person is to be raised.

(3) Nothing in the last preceding paragraph shall require an onsetter to be in attendance at an entrance to any shaft when all the persons below ground who are to be raised through that shaft from that entrance are officials of the mine or persons authorised in writing by the manager to give signals.

Procedure when persons are to be lowered

28. (1) No banksman shall allow any person who is to be lowered from the top of a shaft to enter a cage for that purpose—

(a) unless he has transmitted to the person operating the winding apparatus and to the person defined in paragraph (4) hereof (if any) the signal . . . 3; and

(b) unless he has received from the person so defined (if any) the signal . . . 3.

(2) The banksman shall not transmit to the person operating the winding apparatus the signal to lower when any person is in the cage until he has received from the person defined in paragraph (4) hereof (if any) the signal . . . 1.

(3) In order to direct the person operating the winding apparatus to lower a cage from the landing in use at the top of the shaft when any person is therein the banksman shall transmit to him the signal . . . 2.

(4) The person hereinbefore referred to is—

(a) if two cages are lowered and raised by means of the same winding apparatus and the second cage is resting at another entrance to the shaft, the onsetter or other person authorised to transmit signals in attendance at that entrance; or

(b) if one cage only is lowered and raised by means of the winding apparatus, the onsetter or other person authorised to transmit signals in attendance at the entrance to the shaft to which the cage is to be lowered.

Procedure when persons are to be raised

29. (1) No onsetter or other person authorised to transmit signals shall allow any person who is to be raised to the top of a shaft to enter a cage for that purpose—

(a) unless he has transmitted to the banksman the signal . . . 3; and

(b) unless he has received from the banksmen the signal . . . 3.

(2) In order to direct the person operating the winding apparatus to raise a cage when any person is therein the onsetter or other person authorised to transmit signals shall transmit to him the signal . . . 1.

(3) The person operating the winding apparatus shall not raise a cage in pursuance of a signal . . . 1 given under the last preceding paragraph until he has received from the banksman the signal . . . 2.

Signals when persons are not carried

30. In a shaft when persons are not being carried the following signals and no other shall be transmitted to require the movements specified in relation thereto, that is to say—

to raise up	1
to lower down	2
to stop when in motion	1
to raise steadily	4
to lower steadily	5

Further signals

31. (1) In relation to a shaft to which there is more than one entrance below ground, the manager shall determine the signals to be transmitted to indicate to which entrance a cage is to be sent.

(2) In relation to any shaft, the manager may determine the signal to be transmitted to give any indication (other than one for which a signal is specified in these regulations) and no person shall transmit any signal which is not so specified or determined.

32. (1) The means provided for the transmission of the signals required by this Part of these regulations shall be such that any signal transmitted from an entrance to a shaft underground shall be transmitted simultaneously to the person operating the winding apparatus and to the banksman.

(2) There shall be provided and so placed as to be readily seen by the person operating any winding apparatus an appliance giving visual indication of every signal transmitted to that person in pursuance of the provisions of this Part of these regulations and retaining that indication until a cage is next raised or lowered.

33. No person, other than the banksman, an onsetter, an official of the mine or a person authorised in writing by the manager to transmit such signals, shall transmit any signal in any shaft.

34. There shall be kept posted at each entrance for the time being in use to every shaft, and in the place at which is operated the winding apparatus provided therefor, a notice of the signals specified in these regulations and any signals determined by the manager for transmission in that shaft.

PART VI

Signalling in outlets and roads

35. (1) In outlets and roads in which signalling apparatus is provided the following signals and no other shall be transmitted thereby to require such movements in such cases as are specified in relation thereto, that is to say—

(a) in the case of mechanically operated rope haulage apparatus used for direct or main rope haulage—

to stop	1
to lower	2
to raise up	3;

(b) in the case of mechanically operated rope haulage apparatus used for main and tail rope haulage—

to stop	1
to haul inbye	2
to haul outbye	3
to slack out tail rope	4
to tighten tail rope	5
to slack out main rope	6
to tighten main rope	7;

(c) in the case of gravity operated rope haulage apparatus* (except where an endless rope is used)—

to stop	1
to lower	2;

(d) in the case of endless rope haulage—

to stop	1
to commence hauling	2

(2) In any case in which persons are to be carried in vehicles moved by means of any apparatus specified in the last preceding paragraph any signal so specified requiring the vehicles to be moved shall be preceded by the signal . . . 8.

(3) No person shall pass on foot along any part of an outlet or road in which signalling apparatus is provided and in which vehicles can be moved by means of gravity operated rope haulage apparatus (not having an endless rope) while a person authorised by the manager to transmit signals by means of that signalling apparatus is on duty thereat unless that person has transmitted the signal . . . 4 and that signal has been acknowledged by the signal . . . 4.

36. In relation to any outlet or road the manager may determine the signal to be transmitted to give any indication, and in particular to indicate the place from which any signal is transmitted, (other than an indication for which a signal is specified in these regulations), and no person shall transmit any signal which is not so specified or determined.

37. Where vehicles are moved through an outlet or road by means of mechanically operated or gravity operated rope haulage apparatus, there shall be kept posted, at the place at which that apparatus is operated and at suitable points on each outlet or road through which vehicles can be so moved, a notice of the signals specified in these regulations and any signals determined by the manager for transmission in that outlet or road.

38. No person other than an official of the mine or a person authorised by the manager to transmit such signals shall transmit any signal by means of any signalling apparatus provided in any outlet or road.

PART VII

Further provisions relating to carriage of persons and things through shafts, staple-pits and unwalkable outlets

39. (1) No minerals,† equipment or materials (other than things which are

*This expression, here and subsequently in these Regulations, has the meaning defined in Section 182 (1) of the Act, page 88.

†As defined in Section 182 (1) of the Act, page 88.

required to be or are normally kept by a person in his possession) shall be carried through a shaft, staple-pit or unwalkable outlet whilst persons are being carried through it, whether in the same direction or not.

(2) Nothing in paragraph (1) of this regulation shall prevent—

(a) persons who are to work in a shaft, staple-pit or outlet having with them when being carried there through equipment or materials which they will or may require for the purposes of that work; or

(b) persons accompanying animals or bulky materials that cannot be raised or lowered in a cage.

(3) Where a shaft, staple-pit or unwalkable outlet is divided throughout by a substantial partition, each compartment shall for the purposes of this regulation be deemed to be a separate shaft, staple-pit or outlet, as the case may be.

(4) It shall be the duty of persons authorised by these regulations or by the manager to transmit signals in relation to the operation of the relevant winding or haulage apparatus to ensure compliance with the provisions of paragraph (1) of this regulation.

40. (1) The manager of every mine shall, in relation to each shaft and unwalkable outlet through which persons are carried, determine the maximum number of persons who may be carried at any one time in any cage or carriage therein and where a cage or carriage has more than one deck, on each deck thereof or, in the case of a shaft in the course of being sunk, in any kibble.

(2) There shall be kept posted at each entrance for the time being in use to each such shaft or unwalkable outlet a notice specifying every number so determined.

(3) It shall be the duty of persons authorised by these regulations or by the manager to transmit signals in relation to the operation of the relevant winding or haulage apparatus to ensure that no person in excess of the number so determined enters any cage or carriage or any deck thereof or, in the case of a shaft in the course of being sunk, any kibble.

41. Where an automatic contrivance to prevent overwinding is provided in pursuance of regulation seven at any shaft or unwalkable outlet (not being a contrivance which is in full and fixed engagement with the engine) it shall be the duty of any person authorised by these regulations or by the manager to transmit signals in relation to the operation of the relevant winding or haulage apparatus to ensure that, unless he has taken steps to be assured that the contrivance is engaged, no person is permitted to enter a cage or carriage therein.

42. Where persons are to be carried in a cage or carriage provided with gates through a shaft, staple-pit or unwalkable outlet the banksman, onsetter or other person authorised to transmit signals shall not signal the cage or carriage away until the gates are properly closed.

43. (1) The onsetter or other person authorised to transmit signals at any entrance below ground to a shaft, staple-pit or unwalkable outlet shall not begin, or allow any assistant or other person to begin, to remove or open any enclosure or barrier provided at that entrance unless a cage or carriage is stationary at that entrance or has reached such a position that the floor or a deck thereof will be stationary opposite that entrance by the time the enclosure or barrier is removed or opened.

(2) The onsetter or other person authorised to transmit signals at any entrance below ground to a shaft, staple-pit or unwalkable outlet shall replace or close any enclosure or barrier provided at that entrance (other than one operated by the cage or carriage) either before or immediately after he has signalled away therefrom a cage or carriage.

44. Where persons are to be raised through a shaft, staple-pit or unwalkable outlet from the lowest entrance thereto in a cage or carriage having more than one deck, the onsetter or other person authorised to transmit signals shall secure that the top deck is loaded first :

Provided that this regulation shall not apply in any case in which a balanced platform is used or the decks are loaded simultaneously.

PART VIII

Provisions for securing safety in transport roads

Travelling in transport roads

45. Nothing in paragraph (a) of subsection (1) of section thirty-nine of the Act shall prohibit a person passing on foot along a length of road during a period during which vehicles are moving therein—

- (a) if there is a continuous clear space not less than two feet in width between the vehicles and one side of the road and if the maximum speed at which vehicles may run therein does not exceed ten miles per hour; or
- (b) in the case of a mine opened before the first day of July, nineteen hundred and twelve, if the maximum speed at which vehicles may run in that length of road does not exceed three miles per hour, and if the gradient thereof nowhere exceeds 1 : 9 and does not exceed 1 : 12 for any distance exceeding three hundred feet, and if the average gradient of that length of road does not exceed 1 : 12, and, in a case in which there are two lines of rails in that length of road, if the space between them is kept free of obstructions.

Clearances at coupling places

46. At every place at which sets or trains consisting of three or more vehicles are coupled or uncoupled there shall be provided and maintained a continuous clear space not less than two feet in width between the vehicles standing on any rails thereat and the side of the road nearest to those rails :

Provided that this regulation shall not apply where there are two parallel lines of rails and there is a clear space not less than three feet in width between the vehicles standing on those lines.

Refuge holes

47. (1) For the purposes of section forty of the Act, the intervals which must not be exceeded between refuge holes in roads in which run vehicles moved by gravity or by mechanical power shall be—

- (a) in the case of a length of road in which the gradient does not exceed 1 : 20 and in which either there is a continuous clear space not less than two feet in width between the vehicles and one side of the road or the maximum speed of the vehicles must not exceed three miles per hour, sixty feet; or

(b) in any other case, thirty feet.

(2) For the said purposes the intervals which must not be exceeded between refuge holes on roads in which run vehicles moved by animals (but not vehicles moved by gravity or mechanical power) shall be seventy-five feet.

(3) For the said purposes the prescribed dimensions of refuge holes are—

(a) in width, three feet as nearly as may be;

(b) in depth, not less than four feet; and

(c) in height, not less than the height of the road at that place or six feet whichever is the less.

(4) Where in any length of road there is a continuous clear space not less than two feet in width between the vehicles running therein and one side of the road, every refuge hole therein shall be on that side of the road.

(5) Where in any length of road such clear space is not provided any refuge holes in a part of the road which curves shall be on the outside of the curve and, so far as is consistent with that requirement, all the refuge holes therein shall be on the same side of the road.

(6) Every refuge hole shall be—

(a) marked with a distinctive number;

(b) if necessary to make it readily visible, constantly kept whitewashed both inside and for a distance of not less than one foot round the aperture; and

(c) kept clean.

Transport of persons

48. (1) The manager of every mine in which trains are run for the conveyance of persons below ground shall ensure that each such train is accompanied by, and all persons therein are in the charge of, a competent person appointed by him.

(2) No person shall get on to or off such a train when it is moving or ride upon the footboard, buffer or coupling of any vehicle.

49. No person shall ride on a set or train of vehicles moved by mechanically operated or gravity operated rope haulage apparatus for the purpose of detaching vehicles from, or attaching them to, the rope if that set or train is moving at a speed exceeding three miles per hour.

50. No person shall ride on any haulage rope.

Movement of vehicles by hand

51. (1) No person when moving a vehicle by hand down a gradient exceeding 1 : 12 shall go down in front of the vehicle.

(2) No person shall move any vehicle by hand down an incline in circumstances in which he cannot by his own strength control it from behind unless there is provided such a contrivance as to enable him to control it from behind.

Apparatus to prevent accidents from runaway vehicles

52. (1) A sufficient supply of suitable sprags, lockers or drags shall be provided, maintained and used for the purpose of holding vehicles—

- (a) at the top of every incline on which vehicles are moved by gravity operated rope haulage apparatus;
- (b) at every place at which sets or trains consisting of three or more vehicles are coupled or uncoupled; and
- (c) at suitable points on any length of road of which the gradient exceeds 1 : 20 and in which vehicles are moved by animals.

(2) Stop blocks or other similar contrivances shall be provided and maintained—

- (a) at the top of every incline on which vehicles are moved by gravity operated rope haulage apparatus (not being such apparatus with an endless rope); and
- (b) at every entrance to such an incline by which vehicles are brought on to the incline.

(3) In relation to every train by which persons are carried and which is moved by mechanically operated rope haulage apparatus (not being such apparatus with an endless rope) upon any length of road having a gradient exceeding 1 : 12 there shall be provided and maintained means of preventing any vehicle forming part of that train from becoming disconnected accidentally from other vehicles in the train.

(4) Nothing in this regulation shall be so construed as to affect the generality of section forty-one of the Act.

PART IX

Cappings of winding and haulage ropes

53. (1) No capped rope shall be used at any time in winding or haulage apparatus unless the capping has been made within a period of six months immediately preceding that time.

(2) No capped rope shall be so used unless the capping is of a type which has been found to withstand a load of—

- (a) in the case of a rope used in winding apparatus, at least seven times the maximum static load which may be suspended on that rope;
- (b) in the case of a rope used in haulage apparatus, at least sixty per cent. of the breaking strain of rope of that type.

54. No capped rope shall be used in any haulage apparatus by means of which persons are carried or in any winding apparatus unless, when the capping was made, the work was superintended by a competent person appointed for that purpose by the manager of the mine.

55. (1) No rope which has been re-capped shall be used in any haulage apparatus by means of which persons are carried or in any winding apparatus unless on the last occasion on which it was re-capped a part of the rope including the capping not less than six feet in length was cut off: so however that if at the date of any re-capping the preceding capping or re-capping was done not more than three, four or five months previously the part to be cut off need not exceed three, four or five feet respectively.

(2) Any length of rope cut off in pursuance of this regulation shall forthwith be opened up and its internal condition examined by a competent person appointed for the purpose by the manager of the mine, and the person making such an examination shall forthwith make and sign in a book* provided for the purpose by the owner of the mine, a full and accurate report of the result thereof.

56. No rope having a capping containing white metal shall be used in any winding or haulage apparatus unless—

- (a) the capping was made with white metal of which the melting point is not higher than 570° Fahr., and the temperature of which when poured into the socket of the capel did not exceed 685° Fahr.;†
- (b) in the length of rope which lies within the tapered part of the socket any fibre core was cut out when the capping was made and the wires were then untwisted and thoroughly cleaned; and
- (c) the temperature of the socket of the capel was as nearly as might be 212° Fahr. immediately before the white metal was poured into it.‡

57. No rope with a form of capping in which the wires at the end of the rope are bent back on the rope itself to form a cone shall be used in any haulage apparatus by means of which persons are carried or in any winding apparatus, unless—

- (a) wedges formed by lapping with soft iron wire are placed between the rope and the wires which are bent back; and
- (b) the length of the tapered portion of the socket of the capping is not less than eight times the diameter of the rope.

58. No round rope to which a capel is attached by rivets passing through the rope shall be used in any haulage apparatus by means of which persons are carried or in any winding apparatus.

PART X

Additional provisions relating to shafts and staple-pits in the course of being sunk

59. (1) Without prejudice to the generality of regulations six and seven of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956,‡ it shall be the duty of the manager of every mine consisting of or comprising a shaft or staple-pit in the course of being sunk to ensure that a scheme for the systematic examination of plant at that mine made in pursuance of the said regulation seven provides for the thorough examination§ at intervals not exceeding twenty-four hours of all gear by which any cradle, platform or other thing is suspended in that shaft or staple-pit.

*M. & Q. Form No. 281.

†The capping metal specified and the method of capping described in British Standard Specification No. 643, 1935, are advised.

‡See page 118.

§No. 11 of the Mechanics and Electricians Regulations requires reports to be made on these examinations on M. & Q. Form No. 282.

(2) Where walling or tubbing is being carried out in a shaft or staple-pit in the course of being sunk, the manager shall make and ensure the efficient carrying out of arrangements to secure that it is thoroughly examined by a competent person appointed by him immediately before or during each shift in which work is carried out thereon, whether in the course of an inspection required by regulations or otherwise.

60. (1) Any place where a person could fall off any cradle or platform on which he works in a shaft or staple-pit in the course of being sunk shall be protected by fencing or otherwise to prevent him doing so.

(2) While any person is at work on any such cradle or platform it shall be secured to the side of the shaft or staple-pit to prevent it swinging and shall not be moved except upon the direction of the deputy for that shift or an official of the mine superior to the deputy.

(3) While any person is at work on any such cradle or platform which is constructed of two or more parts hinged together, those parts shall be securely bolted together.

61. At any shaft in the course of being sunk it shall be the duty of the banksman to ensure that the top of the shaft and any landing thereat is kept free of mineral or any other thing which might fall into that shaft and cause injury.

62. No engine which is not fixed shall be used for raising or lowering any person or thing in a shaft or staple-pit in the course of being sunk.

63. (1) In a shaft or staple-pit in the course of being sunk the provisions of regulations twenty-eight to thirty-four of these regulations shall not apply in relation to the determination or transmission of signals, but the following signals and no other shall be used for the purposes specified in relation thereto, that is to say—

to raise up	1
to lower down	2
to stop when in motion	1
when men are to be raised or lowered the person transmitting the signal shall transmit a preliminary signal of	3.

(2) In relation to any shaft or staple-pit in the course of being sunk the manager may determine a signal to be transmitted to give any indication (other than one for which a signal is specified in this regulation) and no person shall transmit any signal which is not so specified or determined.

(3) No person other than the banksman, an official of the mine or a person authorised in writing by the manager to transmit such signals shall transmit any signal in any shaft or staple-pit in the course of being sunk.

64. (1) When anything is to be raised or lowered in any kibble through any shaft or staple-pit in the course of being sunk, it shall be the duty of the deputy for that shift or the banksman or other person authorised to transmit signals in relation thereto, as the case may be, to ensure that it is properly loaded and in particular that—

- (a) no mineral* projects above the rim;
- (b) tools, equipment or other materials for use or used in the mine are not loaded together with mineral;
- (c) when things which project above the rim are carried, they are securely fastened to the bow or chains supporting the kibble;
- (d) nothing capable of causing injury is adhering to the outside of the kibble;
- (e) when the kibble is being raised, it is in line with the pulleys and carefully steadied.

(2) When anything is to be lowered otherwise than in a kibble through a shaft or staple-pit in the course of being sunk, it shall be the duty of the banksman or other person authorised to transmit signals in relation thereto to ensure that it is safely slung.

65. No person shall ride on the edge of a kibble when being raised or lowered thereby.

66. The person operating any winding apparatus at a shaft in the course of being sunk—

- (a) when lowering the kibble, shall stop it eighteen feet above the point to which it is being lowered and shall not lower it further until he has received another signal to lower down;
- (b) when raising the kibble, shall stop it four feet above the point from which it is being raised and shall not raise it further until he has received another signal to raise up.

67. If a shaft is being sunk through any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities) there shall be provided and maintained as a means of escape from the bottom of the shaft to the surface or to some other place of safety, in any case in which more than ten persons are employed below ground at any one time, at least four ladders and, in any other case, at least two ladders.

PART XI

Miscellaneous provisions

Provision of means of telephonic communication

68. (1) Where in any mine vehicles can be moved by means of rope haulage apparatus or locomotives from a point at or near an entrance to a shaft or unwalkable outlet along a road for a distance exceeding three thousand feet, effective means of telephonic communication shall be provided and maintained between the furthest point inbye to which vehicles can be so moved, that entrance to the shaft or outlet and a point above ground.

(2) Nothing in this regulation shall apply to a mine at which not more than thirty persons are employed below ground . . .

Prevention of injuries through things falling down shafts or staple-pits

69. There shall be provided in every shaft and staple-pit reasonable protection for the purpose of preventing persons loading cages at entrances thereto being injured by articles falling down it.

*As defined in Section 182 (1) of the Act, page 88.

70. (1) No person shall go into or across any uncovered space at the bottom of a shaft or staple-pit except for the purpose of working there.

(2) The manager of every mine shall ensure that no person is at work in any uncovered space at the bottom of a shaft or staple-pit (not being a shaft or staple-pit in the course of being sunk) at any time at which any cage is in motion therein.

Assignment of duties to competent persons

71. It shall be the duty of the manager to make and ensure the efficient carrying out of arrangements to secure that every inspection, examination or other thing required by these regulations to be carried out or done by a competent person appointed by him is assigned to a competent person so appointed.

Interpretation

72. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘banksman’ has the meaning assigned thereto in regulation twenty-seven;

‘deputy’ has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;*

‘kibble’ includes any form of bucket, basket or barrel in which things can be raised or lowered in a shaft or staple-pit in the course of being sunk;

‘mine’ has the meaning assigned thereto in regulation one;

‘onsetter’ has the meaning assigned thereto in regulation twenty-seven.

(2) Any reference to a shaft or staple-pit in the course of being sunk shall (unless the contrary intention appears) include a reference to a shaft or staple-pit being driven upwards.

(3) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(4) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) THE COAL AND OTHER MINES (HEIGHT OF TRAVELLING ROADS) REGULATIONS, 1956 (S.I. 1956 No. 1940)

Made under Sections 35 and 141 of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

1. These regulations shall apply to every mine of coal . . .

2. (1) There shall be exempted from the provisions of subsection (1) of section thirty-five of the Act (which requires to be not less than five feet six inches high throughout every length of road in a mine which is used at the beginning or end of a shift by not less than ten persons for the purpose of walking to or from their working places in the mine, being a length made after the

*See page 107.

commencement of the Act) any part of any such road which is within a distance of nine hundred feet from a working face and the height of which has been reduced by movement of the strata due to the working of that face being—

(a) where that face is a longwall face substantially parallel to that part of that road, a part not exceeding in length nine hundred feet or the length of that face whichever is the less; or

(b) in any other case, a part not exceeding four hundred and fifty feet in length:

Provided that, in a case in which the distance walked along parts of roads to which the provisions of this paragraph would apply apart from this proviso and which are less than five feet six inches high, by not less than ten persons at the beginning or end of a shift for the purpose of going to or from their working places exceeds nine hundred feet, or more than one hundred and fifty feet of that distance is along parts of roads less than four feet six inches high, the provisions of this paragraph shall not apply to those parts of those roads.

(2) The exemption of any length of road by virtue of paragraph (1) of this regulation is subject to the condition that it is maintained not less than four feet high throughout.

3. (1) For the purposes of these regulations the expression 'working face' does not include a place in a road at which only ripping or work of repair is in progress.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretations of an Act of Parliament.

(3) These regulations shall come into operation at the commencement of the Act and may be cited as the Coal and Other Mines (Height of Travelling Roads) Regulations, 1956.

(c) THE COAL AND OTHER MINES (TRANSPORT ROADS) REGULATIONS, 1956

(S.I. 1956 No. 1941)

Made under Sections 39 and 141 of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

1. These regulations shall apply to every mine of coal . . .

2. During the period of five years beginning with the commencement of the Act* there shall be exempted from the provisions of paragraph (b) of subsection (1) of section thirty-nine of the Act (which, in relation to a length of road in which run vehicles moved otherwise than by hand or by animal traction and which is used at the beginning or end, or the beginning and end of a shift, by not less than ten persons for the purpose of walking to or from their working places, requires the manager to fix a period or periods for the purpose of enabling them to do so in safety) any such length of road of which the gradient nowhere exceeds 1 : 18 and does not exceed 1 : 24 for any distance exceeding three hundred feet and of which the average gradient does not exceed 1 : 24, being—

(a) in a mine opened before the first day of July, nineteen hundred and twelve, a length of road where the maximum speed at which vehicles may run does not exceed two miles per hour; or

*i.e., until 31st December, 1961.

- (b) in any mine, a length of road on one side of which there is a continuous clear space not less than two feet in width between the vehicles and that side and where the maximum speed at which vehicles may run does not exceed three miles per hour.

3. (1) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(2) These regulations shall come into operation at the commencement of the Act and may be cited as the Coal and Other Mines (Transport Roads) Regulations, 1956.

6. THE COAL AND OTHER MINES (SUPPORT) REGULATIONS, 1956

By the Coal and Other Mines (Support) Order, 1956 (S.I. 1956, No. 1763), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Support) Regulations, 1956.

The order provides that any exemption or authority granted for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted for the purposes of these regulations, have effect as if it had been so granted—

Coal Mines Act, 1911, Section 50 (as amended by the Coal Mines (Support of Roof and Sides) General Regulations, 1947 and the Coal Mines (Miscellaneous) General Regulations, 1953 (S.I. 1953, No. 1098)).

Coal Mines (Support of Roof and Sides) General Regulations, 1947 (S.R. & O. 1947, No. 973).

PART I

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations 'mine' means such a mine.

PART II

General provisions relating to erection of supports

Props

2. (1) Any person setting a prop to support the roof or side of any place in a mine shall set it securely and on a proper foundation.

(2) If it appears to any person whose duties include the setting of props in any part of the mine that any prop in that part of the mine has become broken or unstable, he shall forthwith replace or make stable that prop or, if he is unable so to do, shall report the condition thereof forthwith to the person for the time being in charge of that part of the mine.

(3) It shall be the duty of the person for the time being in charge of any part of a mine to take all reasonable steps to ensure that any prop therein which becomes broken or unstable is forthwith replaced or made stable.

3. (1) Any person setting a prop in a face working* or roadhead in a mine shall insert between the top of the prop and the roof or bar* above it a suitable wooden lid of adequate thickness and of sufficient size to cover the whole top of the prop.

(2) Nothing in the last preceding paragraph shall require the use of a lid above—

(a) a prop set under a wooden bar, unless the support rules† relating thereto otherwise provide; or

(b) a prop set under any other bar, being a prop so constructed as to yield to pressure to the appropriate extent and provided with means to prevent the prop slipping from the bar; or

(c) a prop set for the purpose of inducing a roof break.

(3) An inspector may by notice served on the manager of a mine exempt that mine or a part thereof from the application of this regulation if he is satisfied that the use of such lids therein is unnecessary.

Chocks

4. (1) Any person building a chock which is to form part of a system of support in a mine shall build it on the natural floor and make it tight to the roof.

(2) No person shall include as a main member in such a chock timber other than timber which has flat bearing surfaces where it is in contact with any other main member, otherwise than in a chock which is intended to be left in a pack or in the waste.

Packs

5. Any person building a pack which is to form part of a system of support in a mine shall so far as is practicable make it tight to the roof over its whole area and, wherever a pack is being built by hand or by hand tools, shall build the walls thereof on the natural floor and fill it with debris.

PART III

Provisions relating to systematic support at faces and roadheads

Bars at faces

6. (1) At every working face* in a mine where machinery is used for cutting, conveying or loading mineral the system of support of the roof shall include the use of bars throughout the length of the face and over the whole width of the face working. Support rules in relation thereto shall require such bars to be so set that the interval between adjacent bars in the same row does not exceed four feet and that each such bar shall be supported at all times as effectively as practicable by at least two supports.

(2) An inspector may by notice served on the manager of a mine exempt that mine or a part thereof from the application of this regulation if he is satisfied that either the natural conditions of the workings or the method of work in use

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Regulation 17 (1).

†The expression 'support rules', here and subsequently in these Regulations, should be read in relation to Section 54 of the Act, page 36.

make the use of such bars inexpedient or ineffective, or he may by such a notice authorise provision in the support rules for a greater interval between adjacent bars in the same row, or for the support of bars by one support.

Bars at roadheads

7. (1) At every roadhead in a mine the system of support of the roof shall include the use of rows of bars over the whole width thereof and throughout the following distance from the face in that roadhead or, where the road passes beyond a face to which it leads, from that face, that is to say—

- (a) in the case of a roadhead at an advancing face in which the roof is ripped within thirty feet outbye from the face, throughout the distance between the face and such ripping or, if there is more than one, such ripping farthest from the face; or
- (b) in the case of such a roadhead in which the roof is not so ripped, throughout the distance of thirty feet outbye from the face; or
- (c) in the case of a roadhead at a retreating face, throughout the width of the face working.

(2) Support rules with respect to every roadhead shall specify the intervals between the bars in each row and, if crossbars are used, between the crossbars in each row. Except in accordance with an authority given by an inspector by notice served on the manager of the mine, the intervals specified in relation to adjacent bars shall not exceed four feet unless crossbars are used and the intervals specified in relation to them do not exceed four feet.

(3) In a case in which the roof of a roadhead is ripped the support rules shall provide—

- (a) for the setting of one or more bars extending over the whole width of the ripping and as near as practicable to the ripping lip;
- (b) for the faces of the ripping to be effectively supported; and
- (c) for the setting forthwith of temporary supports for the roof newly exposed by such ripping.

(4) Every such bar and crossbar shall be of adequate strength having regard to its length and the span between points at which it is supported and shall be supported in such manner as to ensure its stability.

Distances between supports at face workings and roadheads

8. (1) Support rules made with respect to every face working and roadhead in a mine shall specify the intervals normally to be allowed and not to be exceeded between props, chocks or other supports set systematically, including the intervals between rows of any such supports, between adjacent supports in the same row, and between the front row of supports and the face.

(2) Such intervals shall not in the following cases exceed those specified in relation thereto, except in accordance with an authority given by an inspector by notice served on the manager of the mine, that is to say—

- (a) the interval between adjacent rows of props shall not exceed four feet, or, in a case in which bars are used and the interval between adjacent bars in that row does not exceed four feet, six feet;
- (b) the interval between adjacent props in the same row shall not exceed four feet; and

- (c) the interval between the front row of props and the face at any place at which filling has been completed shall not exceed three feet:

Provided that the provisions of this paragraph as regards the intervals between adjacent rows of props, and adjacent props in the same row shall not apply to the support rules relating to a roadhead at a face other than a longwall face.

9. Where in accordance with the system of work at any working face (including the face in any roadhead) the interval between the face and the front row of props exceeds three feet at any time during the process of filling, support rules in relation thereto shall require the setting of temporary supports in advance of the front row of props at intervals which, except in accordance with an authority given by an inspector by notice served on the manager of the mine, shall not exceed three feet.

Holing props and sprags

10. (1) During holing at any working face (including the face in any roadhead) holing props, sprags or other suitable supports shall be set forthwith at such intervals not exceeding six feet as may be specified in the support rules relating thereto and such props, sprags or other supports shall not be removed until the mineral holed is about to be taken down.

(2) An inspector may by notice served on the manager of a mine exempt that mine or any part thereof from the application of this regulation.

Temporary removal of supports

11. (1) Nothing in the foregoing regulations shall prevent provision being made in support rules for the removal of—

- (a) any prop or other support, in so far as the maintenance thereof would prevent the operation of machinery used for cutting or loading, or the advancing or turning of any machine or the making of room for it;
- (b) any bar which cannot be maintained in the path of travel of an over-cutting machine.

Any support or bar so removed shall be replaced forthwith after the passage of the machine.

(2) Where provision is made in pursuance of the last preceding paragraph for the removal of supports in order to advance or turn a machine or to make room for it, provision shall be made for the continued support of the roof which shall wherever practicable comprise the use of bars long enough to be effectively supported at all times by not less than two props or other supports.

(3) Nothing in the foregoing regulations shall prevent provision being made in support rules for the postponement of the setting in any face working of any bar which would be in the intended path of travel of an over-cutting machine and which would have to be removed to enable the machine to operate, but where such provision is made the rules shall provide for the setting of props or other supports instead of those bars and the maintenance thereof until it is necessary to remove them to permit the passage of the machine.

PART IV

Miscellaneous provisions

12. If any fall of roof or side involving the displacement or breakage of any support has occurred at a place where any person has to work or pass, it shall be the duty of the person for the time being in charge of that part of the mine forthwith to ensure that any roof or side exposed thereby is, if necessary, dressed and is secured by supports, and that any such dressing and securing is done before any work of clearing debris is begun, other than such work of clearing debris as is necessary for the setting of the supports.

13. In any case in which the roof of any advancing place, other than a place in a road or roadhead, is ripped, it shall be the duty of the manager to ensure—

- (a) the setting of one or more bars extending over the whole width of the ripping as near as practicable to each ripping lip and supported as efficiently as possible by at least two supports;
- (b) the effective support of the faces of the ripping; and
- (c) the setting forthwith of temporary supports for the roof newly exposed by such ripping.

14. Where in accordance with the system of work at any face working supports are withdrawn from the waste or from under the roof adjoining the waste, support rules shall provide for the setting and maintenance of supports at intervals specified therein for the purpose of preventing the breaking of the roof overriding the supports at that face working, and occurring otherwise than in the waste.

Form of support rules

15. Support rules with respect to every mine shall comprise such plans and sections or diagrams of every system of support to be provided as to make the particulars of each system readily understood by all persons who are to be engaged in carrying out that system.

Exemptions

16. The Chief Inspector of Mines may by notice served on the manager of a mine exempt that mine or any part thereof from the application of any provision of these regulations other than a provision in relation to which an express power of exemption is contained in these regulations.

Interpretation

17. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘bar’ includes girder;

‘face working’ in relation to a working face at which supports are systematically withdrawn means all that part of the mine between the face and the front line of the packs, if any, or the last row of supports for the time being maintained whichever is farther from the face and in relation to a working face at which supports are not systematically withdrawn means all that part of the mine between the face and a line parallel to it and twelve feet distant from it;

'mine' has the meaning assigned thereto in regulation one;

'working face' does not include a place at which the work consists only of ripping or work of repair.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

7. THE COAL AND OTHER MINES (VENTILATION) REGULATIONS, 1956

By the Coal and Other Mines (Ventilation) Order, 1956 (S.I. 1956, No. 1764), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Ventilation) Regulations, 1956.

The order provides that any exemption, consent, approval, permission, direction or requirement granted or imposed for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted or imposed for the purposes of these regulations, have effect as if it had been so granted or imposed:

Coal Mines Act, 1911, Section 29.

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748), Regulations 15, 16, 69-73 and 91.

Coal Mines General Regulations (Firedamp Detectors), 1939 (S.R. & O. 1939, No. 322).

Coal Mines (Ventilation) General Regulations, 1947 (S.R. & O. 1947, No. 974).

Coal Mines (Officials and Inspections) General Regulations, 1951 (S.I. 1951, No. 848), Regulation 8.

Coal Mines (Explosives) Order, 1951 (S.I. 1951, No. 1675), Articles 34 and 54.

PART I

Application

1. These regulations shall apply to every mine of coal . . . and in these regulations, unless otherwise expressly provided, 'mine' means such a mine.

PART II

Provisions relating to firedamp content

Inflammable gas in intake airways

2. (1) Without prejudice to the generality of section fifty-five of the Act the manager of every mine shall take such steps as are necessary for securing that every airway therein which as regards any working face* is an intake airway and the air in which has not previously ventilated a working face shall normally be kept free from inflammable gas:

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Regulation 33 (1).

Provided that the requirements of this regulation shall not apply to any part of such an airway within three hundred feet of the first working place at that working face.

(2) For the purposes of this regulation an airway shall be deemed not to be normally kept free from inflammable gas if the average percentage by volume of inflammable gas found in six samples of air taken by an inspector in the general body of the air in that airway at intervals of not less than fourteen days exceeds one quarter.

Determinations of firedamp content

3. (1) Where in any part of a mine in which the use of lamps or lights, other than permitted lights* is unlawful electric power is used at or within one hundred and fifty feet of a working face, the manager shall make and secure the efficient carrying out of arrangements whereby determinations of the percentage of inflammable gas present in the general body of the air (in these regulations referred to as 'the firedamp content') are made in that part in accordance with the provisions of the four next following regulations.

(2) Where in any part of a mine of coal the use of lamps or lights, other than permitted lights, is unlawful and in any part of that mine which comprises a working face shots are fired in the ordinary course of working, the manager shall make and secure the efficient carrying out of arrangements whereby determinations of the firedamp content are made in accordance with the provisions of the four next following regulations in the part of the mine in which shots are so fired.

4. (1) Determinations of the firedamp content shall be made—

(a) by means of apparatus of a type approved for the purpose by the Minister, by a competent person appointed for that purpose by the manager of the mine; or

(b) by means of samples of air taken by a competent person so appointed and analysed within four days of the taking thereof.

(2) In reckoning a period of four days for the purposes of this regulation no account shall be taken of any Saturday, Sunday or day of general holiday.

5. (1) Where determinations of the firedamp content in any part of a mine which comprises a longwall face are required to be made by virtue of the use of electric power at or within one hundred and fifty feet of that face or the firing of shots in that part of the mine, those determinations shall be made at or as near as is practicable to the point in each airway serving that face thirty feet from the nearest working place at that face. If the air ventilating that longwall face has ventilated or will ventilate another longwall face determinations shall also be made at such a point in each airway serving each such other face.

(2) An inspector may serve on the manager of the mine a notice requiring determinations to be made also at such additional point at any such longwall face as may be specified in the notice.

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Section 182 (1) of the Act, page 89.

6. (1) Where determinations of the firedamp content in any part of a mine which comprises a working face other than a longwall face are required to be made by virtue of the use of electric power at or within one hundred and fifty feet of that face or the firing of shots in that part of the mine, those determinations shall be made at suitable points fixed by the manager in respect of each air current in that part of the mine.

(2) An inspector may, if he is of opinion that any point so fixed is unsuitable, serve on the manager a notice requiring him to fix some other point in substitution therefor and may serve on the manager a notice requiring determinations to be made at some other point specified in the notice in addition to those required by the preceding paragraph.

7. (1) Determinations of the firedamp content shall be made at every point required by or under the two last preceding regulations once in every week:

Provided that—

(a) if any determination at any such point shows a firedamp content exceeding 0·8 per cent. by volume determinations shall be made at the corresponding point at intervals not exceeding twenty-four hours so long as the content is shown to exceed or to have exceeded that percentage and for the seven next following working days, unless an inspector by notice served on the manager otherwise consents;

(b) if every determination made during a period of thirty days at any such point showed a firedamp content not exceeding 0·6 per cent. by volume it shall be sufficient to make determinations at the corresponding point at intervals not exceeding thirty days for so long as the firedamp content shown thereby does not exceed that percentage.

(2) Notwithstanding anything in the last preceding paragraph whenever any alteration is made in the arrangements for ventilating a mine which affects or may effect substantially any part of the mine in which determinations of the firedamp content have to be made, a determination of the firedamp content at each point in that part shall be made as soon as any substantial effect of the alteration would be apparent.

(3) Any determination of the firedamp content shall be made, if the relevant face is machine-cut, during the latter part of the cutting shift or, if the face is not machine-cut, during the latter part of the filling shift:

Provided that if it appears to the manager or an inspector, as the case may be, that the firedamp content is normally greatest at any point at any other stage of the operations, determinations at that point may be made at that stage if an inspector by notice served on the manager consents thereto and shall be made at that stage if an inspector by such notice so requires.

(4) The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice of requirement under the last preceding paragraph and either of the following shall be a relevant ground of objection to such a notice, namely—

(a) that the firedamp content at the point in question is not normally greatest at the stage referred to in the notice;

(b) that the greater firedamp content at that stage at that point is transitory

(5) Where determinations of firedamp content are made once in every week or thirty days they shall as far as practicable be made at the appropriate stage of the operations on the last working day of the week, other than a Saturday, on which the operations comprise that stage.

8. (1) Particulars of every determination of firedamp content made in accordance with these regulations shall be recorded forthwith in a book* provided for that purpose by the owner of the mine.

(2) If any determination shows a firedamp content at any point exceeding one per cent. by volume the manager of the mine shall forthwith give notice thereof to the inspector for the district unless—

(a) the excess was caused by temporary derangement of the ventilation at the mine which has been remedied; or

(b) the inspector by notice served on the manager has otherwise directed

Measurements of quantity of air

9. (1) The manager of every mine shall make and secure the efficient carrying out of arrangements whereby the quantity of air passing each of the points hereinafter mentioned is measured at intervals not exceeding thirty days.

(2) The points at which such measurements are to be taken are—

(a) in every intake airway starting at an entrance to a shaft or outlet, a point as near as is practicable to that entrance;

(b) in every split by which air leaves an air current except a split at a longwall face, a point as near as is practicable to the junction;

(c) in any part of the mine in which determinations of firedamp content are required to be made, the points at which those determinations are made, excluding any point at which determinations are made because it has been specified in a notice served on the manager by an inspector; and

(d) in any part of the mine containing a working face, being a part in which determinations of firedamp content are not required to be made under these regulations, a point in each road, which as regards a working face is an intake airway and the air in which has not previously ventilated a working face, as nearly as practicable four hundred and fifty feet from the nearest part of the said working face with respect to which that road is an intake airway, unless that point would be within three hundred feet of a point at which measurements are taken under sub-paragraph (a) or (b).

(3) A measurement of the quantity of air at a point specified in sub-paragraph (c) of the last preceding paragraph shall be taken on an occasion when a determination of firedamp content is made thereat.

(4) Notwithstanding anything in paragraph (1) of this regulation, whenever any alteration is made in the arrangements for ventilating a mine which affects or may affect substantially the quantity of air passing any point at which measurements thereof have to be taken, a measurement of the quantity at each such point shall be taken as soon as any substantial effect of the alteration would be apparent.

*M. & Q. Form No. 226 (37).

(5) Particulars of every measurement taken in accordance with this regulation shall be recorded forthwith in a book* provided for the purpose by the owner of the mine together with any other information incidental thereto for which provision is made in that book.

PART III

Firedamp detectors

10. (1) At every mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful, there shall be provided appliances for detecting the presence of inflammable gas being appliances of a type approved by the Minister for use in mines generally or in mines of a class to which that mine belongs or in that mine (hereinafter called 'detectors') in such number as will enable the provisions of these regulations to be complied with.

(2) Those detectors shall be adjusted, maintained and tested in the manner (if any) specified in the relevant approval.

11. (1) The manager of every mine at which detectors are required to be provided shall—

(a) make arrangements to secure that detectors are in use at the places and in the numbers specified in, and otherwise in compliance with, the three next following regulations;

(b) appoint competent persons and make arrangements to secure that each detector required to be in use is in the personal charge of such a person.

(2) In any prosecution for a contravention of this regulation it shall be a defence to prove that the manager has made the necessary arrangements for the training of a sufficient number of persons and made reasonable efforts to induce appropriate persons to be trained and that the failure to comply fully was due to an insufficiency of trained persons willing to take charge of detectors at that mine.

(3) In the case of any person appointed under this regulation who may be in charge of a detector which is a flame safety-lamp, his competence to recognise actual gas caps as they appear on the lowered flame of the lamp shall be certified by such person and in such form as the Minister may direct.†

12. (1) The places for and the number of detectors to be in use thereat, being places in a part of the mine in which the use of lamps or lights, other than permitted lights, is unlawful, are as follows—

(a) at each longwall face, one detector for each eight persons, and one detector for any person or persons not thus taken into account, in the total number of persons wholly or mainly employed at that face during the shift;

(b) at each other working face (including a cross measure drift or heading in stone), one detector;

*M. & Q. Form No. 226 (37).

†The directed form of certificate is printed in the booklet, "Beware Firedamp", obtainable from H.M.S.O. or from any bookseller, price 9d. net.

(c) at each place in an airway which as regards any working face is a return airway being a place at which one or more men are engaged in repair work, one detector;

(d) at each place at which apparatus comprising an electric motor is in operation at or within three hundred feet of a working face, one detector.

(2) Any detector required by sub-paragraph (d) of the last preceding paragraph shall be in addition to any detector required by any other sub-paragraph thereof.

13. (1) If electric power is being used at a working face and the average of the last six determinations of firedamp content made in pursuance of these regulations at the point on the return side of that face at which such determinations are required to be made exceeds 0·5 per cent. by volume—

(a) any detector required to be in use at that face by virtue of sub-paragraph (d) of paragraph (1) of the last preceding regulation shall be an automatic detector;

(b) in the case of a longwall face, at which by virtue of sub-paragraph (a) of that paragraph not less than eight detectors are required to be in use, one out of each complete eight of those detectors shall be an automatic detector.

(2) Nothing in the last preceding paragraph shall require the provision of more than two automatic detectors at any single-unit conveyor face nor more than four automatic detectors at any double-unit conveyor face.

(3) If broken working is being carried on immediately adjoining the waste in any part of a mine in the course of bord and pillar or a similar system of working and—

(a) the average of the last six determinations of firedamp content made in pursuance of these regulations on the return side of that part of the mine exceeds 0·5 per cent. by volume; or

(b) if such determinations are not required to be made, the average of a series of at least six determinations of firedamp content made by an inspector at intervals of not less than fourteen days exceeds 0·5 per cent. by volume (being where more than one such series of determinations has been made the most recent series);

then, in a case in which not less than four detectors are required to be in use in those broken workings, one out of each complete four of those detectors, and, in any other case, one of those detectors, shall be an automatic detector.

14. The manager of every mine at which detectors are required to be in use shall give directions to the persons who are to have charge of detectors (other than detectors which operate automatically) as to the minimum number of tests for inflammable gas to be made by them.

15. (1) A person in charge of a detector which is a flame safety-lamp shall not, except with the written permission of the manager of the mine, use any other lamp as his working light.

(2) No person in charge of a detector which is a flame safety-lamp shall when testing for inflammable gas raise the lamp higher than is necessary to allow the presence of gas to be detected.

16. If any person in charge of a detector which is a flame safety-lamp detects the presence of inflammable gas therewith he shall not throw away that detector or attempt to extinguish it by blowing or jerking it but shall take it out of the gas steadily, holding it near the floor and sheltering it. If the gas fires in the detector and he cannot immediately take it out of the gas he shall smother the light.

17. Nothing done in pursuance of the preceding regulations relating to detectors shall affect any obligation imposed on any deputy to make any inspection or any obligation to test for inflammable gas in connection with shot firing.

PART IV

Ventilating machinery

18. (1) There shall be provided and maintained in connection with every ventilating fan driven by mechanical power (other than an auxiliary fan) a water gauge and either an automatic indicator registering the number of revolutions of the fan or an automatic indicator registering the ventilation pressure.

(2) The manager of every mine shall give directions as to the speed at which any machinery driving such a fan is to be run to the person in charge of that machinery.

19. (1) The person in charge of the machinery driving such a fan shall examine the machinery and observe the water gauge and automatic indicator at intervals not exceeding—

(a) in the case of a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful, a half hour or such longer time as an inspector may approve by notice served on the manager;

(b) in the case of any other mine, two hours.

(2) Where an automatic indicator registering the ventilation pressure is not in use the person in charge of the machinery driving such a fan shall at the end of each period of two hours enter in a book* provided for the purpose by the owner of the mine the number of revolutions of the fan and the pressure shown by the water gauge at the end of that period.

(3) The person in charge of the machinery driving such a fan shall forthwith report to the official of the mine under whose direction he works—

(a) any damage to or defect or derangement in or stoppage of that machinery; and

(b) any unusual variation in the pressure shown by the water gauge.

PART V

Prevention of leakages of air

Air-locks

20. (1) In each shaft and outlet which is connected by a drift to a fan on the surface of the mine, which was so connected after the thirty-first day of July, nineteen hundred and forty-seven, and which is ordinarily used for winding or haulage there shall be provided and maintained an efficient air-lock.

*M. & Q. Form No. 227.

(2) An inspector may serve on the manager of a mine a notice requiring the provision and maintenance of such an air-lock at any shaft or outlet specified in the notice being a shaft or outlet which is connected and used as aforesaid but which was not so connected after the said date. The provisions of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under this paragraph and any of the following shall be a relevant ground of objection to such a notice, namely—

- (a) that there is insufficient space for an efficient air-lock;
- (b) that by reason of the shortness of the period during which the mine is expected to be worked the requirement is unreasonable;
- (c) having regard to the provision made to ensure the proper ventilation of all parts of the mine, the requirement is unnecessary.

(3) If the Minister is satisfied that the requirements of this regulation are inappropriate to the circumstances of any mine, he may by notice served on the manager exempt that mine from those requirements.

(4) The provisions of this regulation shall not apply to a mine at which not more than thirty persons are employed below ground.

21. (1) Any road not required for the working of a mine and connecting airways which as regards any working face are intake and return airways shall forthwith be so stopped off as to minimise leakage of air through it.

(2) . . . any such stopping between a main intake airway* and a main return airway* shall be—

- (a) constructed of a tight packing at least fifteen feet thick of stone, dirt, sand or rubbish; or
- (b) constructed of a tight packing at least nine feet thick of stone, dirt, sand or rubbish having the end of the packing nearest the intake airway faced with a wall not less than nine inches thick of masonry, brickwork or concrete the face of which is covered with a coating of mortar so as to prevent leakage of air.

In either case each space between the face of the stopping and the airway shall be kept clear.

(3) Nothing in paragraph (2) shall apply to any mine in South Staffordshire in which the unworked coal is liable to spontaneous combustion.

Ventilation doors and sheets

22. (1) In every road which is required for the working of a mine and which is a connection between—

- (a) a main intake airway and a main return airway; or
- (b) airways which as regards any working face are intake and return airways and in either of which the quantity of air passing any point is required to be measured under regulation nine;

there shall be provided and properly maintained at least two suitable doors to minimise the leakage of air, or, if in any case it is impracticable to provide such doors, other suitable means of minimising such leakage.

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Regulation 33 (1).

(2) In any other road the ventilation in which is to be restricted by means of any door or sheet for the purpose of preventing short-circuiting of an air current, there shall be provided and properly maintained at least two doors or, if that is impracticable, at least one door and one sheet or two sheets.

(3) Doors and sheets provided in pursuance of this regulation shall be so spaced that whenever one door or sheet is opened at least one other door or sheet provided for restricting the passing of air can be kept shut, or, if in any case it is impracticable so to space such doors and sheets, other measures to minimise the leakage of air through them shall be taken.

(4) Doors provided in pursuance of this regulation shall be self-closing. No person shall prop or fix such a door open except where and for so long as it is necessary to allow a vehicle to pass through it. Any such door when not in use shall be taken off its hinges and placed in a position in which it will not obstruct the air current.

(5) Any person who opens any such door shall secure that it is closed as soon as possible.

PART VI

Ventilating fans below ground

23. (1) No person other than the deputy in charge of a district affected or an official of the mine authorised by the manager or a person authorised by such a deputy or official shall start, stop, remove or alter any fan installed below ground at any mine.

(2) A deputy or official shall not start or authorise any person to start such a fan on any occasion unless the deputy or official is satisfied that it is safe for the fan to be so started.

24. (1) No auxiliary fan shall be installed at any place in a mine unless the manager is satisfied—

(a) that the quantity of air reaching it at all times will be sufficient to ensure that it does not re-circulate air; and

(b) that air circulated by it will not be contaminated by any substantial quantity of any noxious gas or dust;

and no such fan shall be worked at any time at which either of those conditions is not satisfied.

(2) No auxiliary fan shall be installed at a point within, or less than fifteen feet from the nearer side of the entrance to, the place to be ventilated by it; so however that in the case of two or more fans installed in series this requirement shall apply only to one of them.

(3) Any forcing auxiliary fan shall be installed on the intake side and any exhaust auxiliary fan on the return side of the place to be ventilated by it.

(4) There shall be installed and maintained with every auxiliary fan such an air duct for conducting air to or from the face of the place to be ventilated as ensures adequate delivery of air within fifteen feet of the face and minimises leakage.

(5) Every auxiliary fan, whether driven electrically or otherwise, shall be so connected with earth as to prevent the accumulation of an electro-static charge.

25. (1) In respect of every auxiliary fan at a mine the manager shall fix the minimum quantity of air to be delivered or exhausted per minute at the end of the air duct.

(2) The manager shall make and secure the efficient carrying out of arrangements whereby at least once in every week a competent person appointed for that purpose by him measures the quantity of air being so delivered or exhausted and determines whether any air is being re-circulated by that fan.

(3) Particulars of the quantity fixed under paragraph (1) and of every measurement and determination made under paragraph (2) shall be recorded forthwith by the manager or the competent person, as the case may be, in a book* provided for that purpose by the owner of the mine.

26. (1) Two or more auxiliary fans shall not be installed in any section of narrow or panel workings so as to draw air from the same air current unless there is kept at the mine an accurate plan showing the general system of ventilation in that section and the quantity of air in each air current therein.

(2) Upon the preparation of such a plan the manager of the mine shall send a copy thereof to the inspector for the district, and, if any change in the system of ventilation or any substantial variation in the quantity of air in any air current thus shown is made, the manager shall send an amended plan or otherwise give notice of the change or variation to that inspector as soon as the effect thereof can be ascertained.

27. Without prejudice to the generality of subsection (5) of section fifty-five of the Act, where a place is provided with an auxiliary fan, no workman shall enter or remain in that place while the fan is not operating unless the deputy in charge of the district or some other official appointed for that purpose by the manager has inspected the place and found it safe.

28. (1) No fan (not being an auxiliary fan) shall be installed at any place below ground in a mine, unless the manager is satisfied that it is necessary or expedient to install it at that place for the proper ventilation of the mine, having taken into account a survey of the ventilation of every part of the mine which would or might be substantially affected and a report upon the appropriate type, size and location of the proposed fan, being a survey and report made by persons experienced in those matters appointed for the purpose by the owner of the mine or the manager.

(2) If any such fan is installed at any place below ground the manager shall forthwith give notice thereof to the inspector for the district, attaching thereto particulars of the survey and a copy of the report made in relation to that installation.

PART VII

General

Ventilating Sheets

29. In any mine in which naked lights are in use, every ventilating sheet shall be of fire-resisting material and shall be properly maintained.

30. Any person who moves any ventilating sheet shall secure that it is replaced as soon as possible.

*M. & Q. Form No. 228.

31. Wherever sheets or ducts are used to secure the ventilation of any working place not being a working place in a shaft in the course of being sunk, it shall be the duty of the deputy or other official in charge of that part of the mine to ensure that they are so placed and maintained that an adequate amount of air reaches that place.

Exemptions

32. The Chief Inspector of Mines if he is satisfied that the application of any provision in Part II, V or VI of these regulations (other than a provision in relation to which an express power of exemption is contained in these regulations) is inappropriate in relation to any mine or part thereof, may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

33. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘auxiliary fan’ means a fan used or intended to be used below ground wholly or mainly for ventilating a heading, drift or blind end;

‘deputy’ has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;*

‘detector’ has the meaning assigned thereto in regulation ten;

‘electric power’ does not include electricity used in a portable safety-lamp or detector, shot-firing apparatus, a scientific instrument, signalling apparatus or a telephone;

‘firedamp content’ has the meaning assigned thereto in regulation three;

‘main intake airway’ means a length of intake airway which begins at a shaft or outlet or a length of airway the current of air in which is subsequently split and which as regards two or more working faces is an intake airway;

‘main return airway’ means a length of return airway which ends at a shaft or outlet or a length of airway the current of air in which has been split and which as regards two or more working faces is a return airway;

‘mine’ has the meaning assigned thereto in regulation one;

‘working face’ does not include a place in a road or roadhead at which ripping or work of repair is in progress.

(2) Where a determination of the firedamp content made for the purposes of any of these regulations is made by means of a sample of air it shall be deemed to be made at the time and place at which the sample is taken.

(3) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(4) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

*See page 107.

8. SAFETY-LAMPS, LIGHTING AND MANNER OF SEARCH

(a) THE COAL AND OTHER MINES (SAFETY-LAMPS AND LIGHTING) REGULATIONS, 1956

By the Coal and Other Mines (Safety-Lamps and Lighting) Order, 1956 (S.I. 1956, No. 1765), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Safety-Lamps and Lighting) Regulations, 1956.

The order provides that any exemption, approval, authority or requirement granted or imposed for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted or imposed for the purposes of these regulations, have effect as if it had been granted or imposed:

Coal Mines Act, 1911, Section 34 (as amended by the Coal Mines General Regulations (Safety-Lamps), 1927, S.R. & O. 1927, No. 1155).

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748), Regulations 13, 14, 37, 122 and 135.

Coal Mines General Regulations (Firedamp Detectors), 1939 (S.R. & O. 1939, No. 322), Regulation 7.

Coal Mines (Lighting) General Regulations, 1947 (S.R. & O. 1947, No. 972),

Coal Mines (Officials and Inspections) General Regulations, 1951 (S.I. 1951, No. 848), Regulation 17.

PART I

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations, unless otherwise expressly provided, 'mine' means such a mine.

PART II

Provision and maintenance of safety-lamps and firedamp detectors

Arrangements for examination of safety-lamps and firedamp detectors before and after use

2. (1) It shall be the duty of the manager of every mine in which or in part of which the use of lamps or lights, other than permitted lights,* is unlawful to appoint competent persons and to make and ensure the efficient carrying out of arrangements to secure the examination of safety-lamps and appliances (whether or not safety-lamps) for detecting the presence of inflammable gas (hereinafter referred to as 'detectors') in accordance with the provisions of this regulation.

(2) The manager shall make and ensure the efficient carrying out of arrangements to secure that no safety-lamp or detector is taken for use below ground in such a mine unless—

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Section 182 (1) of the Act, page 89.

(a) since last in use it has been thoroughly examined above ground by a competent person appointed by him and has been found by that person to be in safe working order; and

(b) it is securely locked.

Such arrangements shall provide for the keeping of a record of the person by whom any safety-lamp or detector is so taken on any occasion.

(3) The manager shall make and ensure the efficient carrying out of arrangements to secure the examination by a competent person appointed by him of every safety-lamp or detector upon its return to the lamp room after use. If the competent person upon such an examination finds any lamp or detector to be damaged he shall forthwith record the nature of the damage in a book* provided for that purpose by the owner of the mine.

(4) Without prejudice to the generality of paragraph (2), the examination thereunder of every flame safety-lamp with a self-contained re-lighting contrivance shall include the taking apart of the lamp, thorough cleaning of all parts and the testing of the re-lighting contrivance. After reassembly the re-lighting contrivance shall not be operated unnecessarily.

3. (1) The manager of every safety-lamp mine† shall make and ensure the efficient carrying out of arrangements to secure that every safety-lamp being taken below ground by a person employed at the mine (other than an official of the mine) is examined by a deputy or other competent person appointed by the manager before or as soon as practicable after it is taken into the mine to ascertain that it is in safe working order and properly locked.

(2) The manager of every mine in which there is a safety-lamp part‡ shall make and ensure the efficient carrying out of arrangements to secure the like examination of every safety-lamp being taken into a safety-lamp part of the mine at a place appointed by him for the purposes of this paragraph.

Bulbs for electric safety-lamps

4. It shall be the duty of the manager of every mine to ensure that every bulb used in an electric safety-lamp of a type for the time being approved by the Minister for general use by workmen is a bulb—

(a) of a type approved by the Minister and marked in a manner specified‡ by the Minister in or in relation to that approval;

(b) where the safety-lamp is of a type the approval for which contains provisions relating to the characteristics of any bulb to be used therein, in conformity with those provisions.

Cap lamps for persons employed in haulage

5. Any safety-lamp provided for personal use by a person ordinarily employed in haulage operations shall be an electric cap lamp, and there shall be provided therewith a proper fitting for carrying that lamp.

*M. & Q. Form No. 214 (38).

†This expression, as used here and subsequently in these Regulations, has the meaning defined in Section 182 (1) of the Act, page 89.

‡The manner of marking is described in Test Memo. No. 1 (Test and Approval of Safety Lamps).

Maintenance of lighting performance

6. It shall be the duty of the manager of every mine to make and ensure the efficient carrying out of arrangements to secure the maintenance of the lighting performance of safety-lamps used in the mine, being lamps of a type the approval for which specifies the lighting performance thereof, and in particular so that if an inspector selects from lamps of such types returned to the lamp room after use on any shift and not upon examination in pursuance of paragraph (3) of regulation two found to be damaged a sample comprising not less than fifty lamps or one-half of the number of lamps returned after that shift (whichever is the less) and after external cleansing determines the mean spherical candle-power of any cap lamps and the maximum horizontal candle-power of other lamps in that sample it shall in the case of at least half of those lamps be not less than sixty per cent. of the performance specified in the relevant approval, or, if another percentage (not exceeding seventy five per cent.) is specified* in an order made by the Minister, that other percentage thereof.

General duties of persons with safety-lamps

7. Every person to whom a locked safety-lamp is issued for use in a mine shall before taking it below ground examine it externally and assure himself that it is locked and in safe working order and shall also examine it from time to time while in the mine to assure himself that it remains in safe working order.

8. No person shall unlock or open any safety-lamp or detector below ground in a safety-lamp mine or safety-lamp part of a mine or have in his possession below ground in any such mine or part of a mine any contrivance for unlocking or opening any safety-lamp or detector.

9. No person shall place a safety-lamp or detector on its bottom in a mine unless it is necessary to do so for the safe performance of any work in which that person is engaged or unless he is authorised to do so by the manager, and no person working in a mine with a pick, hammer or other such tool shall swing it within two feet of a safety-lamp or detector (other than a cap lamp which he is wearing).

10. If any safety-lamp is damaged in a mine the person using it shall forthwith carefully extinguish the light.

11. Every person to whom a safety-lamp or detector is issued for use in a mine shall on the completion of his shift return it to the lamp room.

PART III

Re-lighting safety-lamps underground

12. The provisions of this Part of these regulations shall apply to safety-lamp mines and safety-lamp parts of mines.

13. (1) No person, except a competent person appointed by the manager for the purpose at a place appointed by the manager as a lamp station, shall re-light below ground any flame safety-lamp other than a lamp with a self-contained re-lighting contrivance.

*No other percentage has yet been specified for this purpose.

(2) No contrivance for re-lighting a flame safety-lamp (other than a contrivance contained in a lamp) shall be kept below ground otherwise than at such a lamp station, and no person shall have any such contrivance in his possession below ground, other than a contrivance at such a lamp station.

(3) Any such contrivance for re-lighting a flame safety-lamp shall be so constructed, maintained and used as to prevent the emission of flame or a spark.

14. (1) The manager shall not appoint as a lamp station any place in a road which as regards any working face is a return airway, or any place in any part of the mine in which inflammable gas although not normally present is likely to occur in a quantity sufficient to indicate danger.

(2) It shall be the duty of the manager to secure that at or near every lamp station there is kept posted a notice indicating its position in such characters and in such a place as to be easily seen.

15. (1) No person other than an inspector, a manager, an undermanager, a deputy, a shot firer, a person carrying out an inspection under Part VII of the Act* or a person as to whom the manager is satisfied that he is capable of using a re-lighting contrivance safely and who is authorised by the manager in writing so to do, shall take any flame safety-lamp with a self-contained re-lighting contrivance into any mine or part of a mine to which this Part of these regulations applies.

(2) A person having a flame safety-lamp with a self-contained re-lighting contrivance shall at all times while he is below ground retain the key for operating the contrivance in his possession.

16. (1) No person shall re-light any flame safety-lamp below ground (either at a lamp station or by means of a self-contained re-lighting contrivance) unless he has examined it and found it to be undamaged. Any person who has so re-lighted a safety-lamp shall forthwith again examine it and unless he finds it to be securely locked and in safe working order shall not allow it to be used or to remain lighted.

(2) A person having a flame safety-lamp with a self-contained re-lighting contrivance shall not attempt to re-light it at any place at which there is reason to suspect the presence of inflammable gas.

PART IV

General lighting and permitted lights

Places at which general lighting is to be provided

17. (1) It shall be the duty of the manager of every mine to secure the provision and maintenance of suitable and sufficient lighting at the following places below ground at all times when any persons are working thereat or walking therethrough going to or from their working places at the beginning or end of a shift, that is to say—

- (a) such entrances to each shaft or outlet and such sidings provided in relation thereto as are regularly used;

*i.e., an inspection on behalf of persons employed.

(b) the top and bottom of every incline on which vehicles are moved by gravity operated rope haulage apparatus other than apparatus which is advanced with the working of a face;

(c) every siding, landing, passbye, junction and off-take, every place at which vehicles are regularly coupled or uncoupled or regularly attached to or detached from a haulage rope and every place at which vehicles are regularly filled mechanically;

(d) every room or place made to house and containing any engine or motor.

(2) Lighting provided in pursuance of this regulation shall be so arranged as to minimise glare or eyestrain.

(3) Nothing in the preceding provisions of this regulation shall require the provision of lighting at any place ventilated by air none of which has ventilated a working face and within one hundred and fifty feet of a working face, or at any other place within nine hundred feet of a working face being in either case a place accessible from the face in question :

Provided that an inspector may serve on the manager or a mine a notice requiring him to secure the provision and maintenance of suitable and sufficient lighting at any place specified in the notice at which such lighting would be required but for the preceding provisions of this paragraph and which is not within thirty feet of such a working face.

(4) Nothing in the preceding provisions of this regulation shall require the provision of lighting in a mine at which not more than ten persons are employed below ground and an inspector may by notice served on the manager exempt any mine at which not more than thirty persons are employed below ground from those requirements.

18. (1) Subject to the following provisions of this regulation and to the provisions of the Coal and Other Mines (Electricity) Regulations, 1956,* electric lights supplied with electricity from a source of electric power external to the lighting unit are hereby authorised to be used at the following places in mines in which the use of lamps or lights, other than permitted lights, is unlawful (either throughout or in any part) that is to say—

(a) in any length of road ventilated by air none of which has ventilated a working face except within one hundred and fifty feet of a working face accessible from that length of road;

(b) in any length of any other road except within nine hundred feet of a working face accessible from that length of road;

(c) where electric power is used at a working face, in any length of road which is an intake airway as regards that face except within thirty feet of a face and in any other length of road used in connection with that face except within three hundred feet of that face;

(d) if authorised by a notice served by an inspector on the manager, in any length of road described in the notice except within thirty feet of a working face;

and accordingly such electric lights so used are permitted lights in those mines.

*See page 178.

(2) Where electric lights are installed at any place by virtue of sub-paragraph (c) of the last preceding paragraph, the manager shall forthwith give notice thereof to the inspector for the district.

(3) Electricity at a voltage exceeding two hundred and fifty shall not be applied to any such lights and if the system is polyphase the neutral point shall be connected to earth or if it is not polyphase the mid-voltage point shall be connected to earth:

Provided that the provisions of this paragraph shall not apply to any system of electric lighting by direct current installed in a seam in a mine before the first day of August, nineteen hundred and forty-seven.

(4) It shall be the duty of the manager to ensure that appropriate precautions are taken to prevent damage to any such electric lighting system from shot firing and that every lamp fitting is so constructed as to protect the lamp from accidental damage.

(5) In any part of a mine in which inflammable gas, although not normally present, is likely to occur in a quantity sufficient to indicate danger, no electrical apparatus, other than apparatus of a type approved by the Minister, shall be used as part of such a system in any length of road within nine hundred feet of a working face accessible from that road.

19. (1) Subject to the following provisions of this regulation and to the provisions of the Coal and Other Mines (Electricity) Regulations, 1956,* an electric lighting unit operated by a generator enclosed in the unit and driven by compressed air, being a unit of a type approved by the Minister, is hereby authorised to be used in mines in which the use of lamps or lights, other than permitted lights, is unlawful (either throughout or in any part), and accordingly such a unit is a permitted light in those mines.

(2) No person shall below ground in any such mine turn on the air pressure in such a unit unless the unit is fully assembled and closed, or open any such unit unless the air pressure has been turned off.

(3) No person shall attempt to use below ground in such a mine any such unit any part of which is defective.

(4) No person other than a person appointed in writing by the manager so to do shall dismantle, repair, alter or adjust any such unit below ground in such a mine.

(5) It shall be the duty of the manager to ensure that at intervals not exceeding three months every such unit is cleaned, thoroughly overhauled and tested in a workshop appointed by the manager for that purpose. The person by whom such a test is made shall forthwith make a full and accurate report thereon in a book† provided for that purpose by the owner of the mine.

20. (1) Electric lights which are fittings of or accessories to any machinery or electrical apparatus (including signalling apparatus) and which are of a type approved by the Minister are hereby authorised to be used in mines in which the use of lamps or lights, other than permitted lights, is unlawful (either throughout or in any part), and accordingly such lights are permitted lights in those mines.

*See page 178.

†M. & Q. Form No. 215.

(2) It shall be the duty of the manager to ensure that any such lights are maintained and tested in the manner (if any) specified in the relevant approval.

PART V

General

Lamps at places with general lighting

21. There shall be provided for every person who works at a place below ground in any mine, being a place at which there is general lighting, a portable lamp for use in emergency and every such person shall have that lamp with him whenever he is at such a place.

22. There shall be provided at every place below ground lighted by electric lights the failure of which would be likely to cause danger a safety-lamp or other proper light which shall be kept alight at all such times.

Places which are to be whitened

23. The manager of every mine shall make and ensure the efficient carrying out of arrangements to secure that the roof and sides of the following places below ground in that mine are kept whitened, that is to say—

- (a) such entrances to every shaft or outlet and such sidings provided in relation thereto as are regularly used;
- (b) the top and bottom of every incline on which vehicles are moved by gravity operated rope haulage apparatus, other than apparatus which is advanced with the working of a face;
- (c) every siding, landing, passbye, junction and off-take, every place at which vehicles are regularly coupled or uncoupled or regularly attached to or detached from a haulage rope and every place at which vehicles are regularly filled mechanically except in so far as any such place is within three hundred feet of a working face in connection with which that place is used;
- (d) every room or place made to house and containing any engine, motor, electrical transformer or switchgear:

Provided that an inspector may by notice served on the manager exempt any place from the requirements of this regulation.

Exemptions

24. The Chief Inspector of Mines if he is satisfied that the application of any provision in regulation four, five, six, seventeen, twenty-one or twenty-three of these regulations is inappropriate in relation to any mine or part thereof may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

25. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘deputy’ has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;*

*See page 107.

‘detector’ has the meaning assigned thereto in regulation two;

‘mine’ has the meaning assigned thereto in regulation one;

‘shot firer’ has the meaning assigned thereto (in the case of a mine of coal) in the Coal Mines (Explosives) Regulations, 1956,* . . . ;

‘working face’ does not include a place in a road at which the work consists of ripping or work of repair.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) SAFETY-LAMPS APPROVED FOR INSPECTIONS BY DEPUTIES AND SHOT FIRERS

The following types of safety-lamps are approved for the purposes of No. 12 (2) of the Coal and Other Mines (Managers and Officials) Regulations, 1956, and No. 43 (2) of the Coal Mines (Explosives) Regulations, 1956:

Any safety-lamp, being of a type approved by the Minister for the purposes of Section 64 (2) of the Mines and Quarries Act, 1954, which is—

- (a) a combined flame and electric lamp;
- (b) a flame lamp fitted with a self-contained relighting device and adjustable by the user to admit air at the top of the lamp only;
- (c) for use in conjunction with a flame lamp of a type approved as being capable of giving light throughout the shift, an electric hand lamp weighing not more than three and a half pounds, or an electric cap lamp; or
- (d) for use in conjunction with a flame lamp of a type not approved as being capable of giving light throughout the shift, an electric hand lamp weighing not more than six and a half pounds, or an electric cap lamp; and
- (e) in the case of an electric lamp or combined flame and electric lamp, provided with a switch.

(c) THE MINES (MANNER OF SEARCH FOR SMOKING MATERIALS) ORDER, 1956

Made by the Minister under Section 66 (8) of the Mines and Quarries Act, 1954.

1. Every search made in pursuance of the said section sixty-six of the Act at any mine shall be made in the manner following, that is to say—

- (a) the search shall be made by a person appointed for the purpose in writing by the manager of the mine (that person being hereinafter referred to as ‘the searcher’);
- (b) in the case of a search of any person employed or about to be employed on a shift, the search shall be made in the presence of not less than two other persons so employed or about to be so employed;

*See page 187.

(c) in making the search the searcher shall observe the proprieties and shall cause to the person being searched no more inconvenience than may be necessary for the purpose of making an efficient search;

(d) the searcher shall—

(i) feel for any such article as is mentioned in subsection (1) of the said section sixty-six of the Act by handling the clothing of the person being searched (including the inside of any pockets), and, if after so doing he has reason to believe or suspect that any such article is in the possession of that person, examine that clothing;

(ii) examine any other article which that person has with him.

2. (Revocation of Order of 21st May, 1912.)

3. (1) The Interpretation Act, 1889, shall apply to the interpretation of this order as it applies to the interpretation of an Act of Parliament.

(2) This order shall come into operation at the commencement of the Act and may be cited as the Mines (Manner of Search for Smoking Materials) Order, 1956.

9. ELECTRICITY

(a) THE COAL AND OTHER MINES (ELECTRICITY) REGULATIONS, 1956

By the Coal and Other Mines (Electricity) Order, 1956 (S.I. 1956, No. 1766), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Electricity) Regulations, 1956.

The Order provides that any exemption, approval or certificate given for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been given for the purposes of these regulations, have effect as if it had been so given:

Coal Mines Act, 1911, Section 60.

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748), as amended by the Coal Mines (Electricity) (Earthing Systems) Regulations, 1953 (S.I. 1953, No. 1509), Regulations 118 to 132, 134 and 137.

General Regulations dated 30th July, 1920 (S.R. & O. 1920, No. 1423), Regulation 28.

Coal Mines General Regulations, 1938 (S.R. & O. 1938, No. 797), Regulation 8.

Application

1. These regulations shall apply to every mine of coal . . . and in these regulations 'mine' means such a mine.

Notice of introduction of electricity

2. (1) Electrical apparatus shall not be installed below ground in any part of a mine, being a part in which electrical apparatus is not already installed, unless the manager of the mine has served on the inspector for the district notice as the intention so to do in such form* and accompanied by such particulars of

*M. & Q. Form No. 263 (12).

may be specified by the Minister, and an inspector has not within thirty days of the service of that notice served a notice on the manager in relation to such installation in pursuance of subsection (2) of section sixty-eight of the Act.

(2) Nothing in this regulation shall apply—

- (a) to the installation of electrical apparatus in any part of a mine, being a part in which the installation of such apparatus was lawful immediately before the commencement of the Act;
- (b) to the installation of telephone or signalling apparatus, and for the purposes of this regulation no account shall be taken of such apparatus already installed.

Plan of electrical apparatus

3. It shall be the duty of the manager of every mine in which there is installed below ground electrical apparatus, other than telephone or signalling apparatus, to keep at the office at the mine or at such other place as may be approved by an inspector, plans, on the same scale as the plans of the workings in the mine so kept, showing the position of all such electrical apparatus other than portable apparatus and cables.

Main switchgear for cutting off electricity

4. (1) There shall be provided at the surface at every mine in which there is installed below ground electrical apparatus, other than telephone or signalling apparatus, suitable switchgear for cutting off the supply of electricity therefrom.

(2) The manager of every such mine shall make and secure the efficient carrying out of arrangements whereby a competent person appointed by him for the purpose of operating such switchgear is in attendance at the surface at the mine whenever any cable below ground in the mine is live.

(3) There shall be provided effective means of telephonic communication or other equivalent means of transmitting speech between the place at which such switchgear is situate and a place at or near every such entrance below ground to every shaft or outlet as is regularly used for affording means of ingress and egress by persons employed in a part of the mine in which electrical apparatus is installed or a place at or near the main distributing centre (if any) for the part of the mine to which that entrance gives access. There shall be kept posted in a suitable position near such means of communication a notice in such characters as to be easily seen and read specifying how communication with the person in attendance at that switchgear is to be obtained.

Other means for cutting off electricity

5. (1) There shall be provided in relation to every electrical circuit at every mine (whether at the surface or below ground) effective means suitably placed for cutting off the supply of electricity from that circuit as may be necessary to prevent danger, and without prejudice to the generality of the aforesaid such means shall be provided for cutting off the supply from any flexible cable at the apparatus by which it is connected to fixed cable.

(2) There shall be provided in relation to every such electrical circuit such effective means for cutting off the supply of electricity automatically from that circuit in the event of any fault occurring in any part of that circuit as may be necessary to prevent danger.

(3) There shall be provided in relation to every motor at a mine such switch-gear that the supply of electricity can be entirely cut off from the motor and any starter therefor, being switchgear so placed as to be easily operated by the person operating the motor.

Cutting off electricity where inflammable gas is found

6. (1) Where any person finds that at any place below ground in a mine an amount of inflammable gas is present in the general body of the air at that place exceeding one-and-a-quarter per cent. by volume or sees an indication of gas at that place on the lowered flame of a safety-lamp, then, without prejudice to the generality of the application of sections seventy-nine and eighty of the Act, that person shall—

- (a) forthwith cause the supply of electricity to be cut off from all electrical apparatus at that place, other than any telephone or signalling apparatus or any electric safety-lamp, if the taking of those measures falls within the scope of his normal duties; or
- (b) if not, forthwith report the matter to an official of the mine or a person whose normal duties include the taking of those measures.

(2) Any person to whom the presence of inflammable gas at that place is reported in pursuance of sub-paragraph (b) of the last preceding paragraph shall forthwith cause the supply of electricity to be cut off from all electrical apparatus at that place, other than any telephone or signalling apparatus or any electric safety-lamp.

(3) After the supply of electricity has been cut off from electrical apparatus at that place in pursuance of sub-paragraph (a) of paragraph (1) or paragraph (2) of this regulation, no such supply shall be restored to that apparatus at that place until the senior official on duty at the mine, being satisfied that the amount of inflammable gas present in the general body of the air at that place does not exceed one-and-a-quarter per cent. by volume, so directs.

Restriction on use of high voltages

7. Electricity at a voltage exceeding six hundred and fifty shall not be applied to—

- (a) any portable apparatus; or
- (b) any motor at a mine rated at less than twenty horse-power; or
- (c) the rotating parts of any apparatus.

Housing of apparatus

8. (1) Wherever necessary to prevent danger therefrom or damage thereto electrical apparatus at the surface of any mine shall be installed in a room, compartment or box so constructed or treated as to be fire resisting.

(2) Wherever necessary to prevent danger therefrom or damage thereto any transformer or switchgear below ground in any mine shall be installed in a room, compartment or box which shall be of substantial construction and kept dry. Unless the apparatus so installed is so constructed, protected and worked as to obviate risk of fire, no inflammable material shall be used in the construction of any such room, compartment or box or of any of the fittings therein.

(3) No inflammable or explosive material shall be stored at any mine in any room, compartment or box containing any electrical apparatus or below ground in the vicinity of any electrical apparatus.

9. (1) All parts of electrical apparatus that require attention and all handles for the operation of electrical apparatus shall be so placed that there is safe means of access thereto and adequate working space thereat.

(2) All such handles shall be kept free of obstruction and conveniently placed for operation.

Protection of apparatus

10. Every person doing any work which may result in such damage to any electrical apparatus at a mine that that apparatus might be a source of danger to persons employed thereat shall take such steps to protect it from such damage as may be appropriate.

Suitability of apparatus

11. (1) No electrical apparatus shall be used at any mine unless it is of sufficient power or capacity to avoid dangerous overloading, and is protected against any danger arising out of such use.

(2) Wherever necessary to prevent danger, electrical apparatus at any mine shall be kept clean, dry and clear of obstruction.

Insulation

12. (1) Any material used in any mine for the purpose of insulating any conductor shall be suitable having regard to the degree of insulation and mechanical strength required and the conditions of temperature and moisture to which it is likely to be subjected and to any means provided for its protection.

(2) Every conductor forming part of an electrical system, except the outer conductor of a concentric cable, shall be kept efficiently insulated from earth:

Provided that—

(a) in the case of a system with polyphase supply, the neutral point thereof may be connected at one place but no more to earth at the surface of the mine; and

(b) in the case of a system with single-phase or direct current supply, the mid-voltage point may be connected at one place but no more to earth at the surface of the mine.

(3) In relation to every electrical system efficient means shall be provided whereby an indication is given of any defect in the insulation thereof.

Earthing

13. (1) There shall be connected to earth at the surface of the mine in such manner as will ensure immediate electrical discharge without danger—

(a) every metallic covering of any cable;

(b) the outer conductor of every concentric cable;

(c) every metallic part of any covering or container of, or mounting for, any other electrical apparatus; and

(d) any handle for the operation of any electrical apparatus :

Provided that the provisions of this paragraph shall not apply to a lamp-holder efficiently protected by a covering made of fire resisting material which is either insulated or earthed.

(2) Without prejudice to the generality of the last preceding paragraph, every earthing conductor installed for the purposes thereof shall have a conductivity throughout (including any joint) not less than half that of the conductor having the greatest current carrying capacity in relation to which it is provided and shall have a cross-sectional area not less than 0.022 square inches :

Provided that—

(a) in relation to a flexible cable by which electricity is supplied at a voltage not exceeding one hundred and twenty-five to portable apparatus, nothing in the preceding provisions of this paragraph shall require the earthing conductor to have a cross-sectional area greater than 0.01 square inches; and

(b) in relation to a flexible cable by which electricity is supplied to portable apparatus of capacity not exceeding three kilowatts at the surface of a mine, being a cable comprising an earthing conductor, nothing in the preceding provisions of this paragraph shall require the earthing conductor to have a cross-sectional area greater than that of any one of the other conductors in that cable.

(3) Subject to the preceding provisions of this regulation and to the provisions of regulation fifteen, the metallic covering of any cable may be used as an earthing conductor.

(4) No switch or circuit breaker* shall be placed in any earthing conductor.

(5) Nothing in this regulation shall apply to any apparatus in any circuit in which the voltage does not exceed two hundred and fifty direct current or one hundred and twenty-five alternating current, other than portable apparatus.

Cables

14. (1) The provisions of this regulation shall apply to all electric cables at a mine other than—

(a) flexible cables for portable apparatus;

(b) telephone and signalling apparatus; and

(c) at the surface, other cables so placed or otherwise safeguarded as to prevent danger.

(2) Every conductor in every cable to which this regulation applies, except an earthed outer conductor of a concentric cable and a metallic covering of a cable used as an earthing conductor in accordance with the provisions of paragraph (3) of regulation thirteen, shall be covered with insulating material.

(3) Every cable to which this regulation applies shall be efficiently protected from mechanical damage and supported at such intervals and in such manner as to prevent damage thereto or danger.

*Includes 'fuse'—see definition in Regulation 16 (1).

(4) Every such cable used—

- (a) for transmitting electricity at a voltage exceeding two hundred and fifty;
or
- (b) in any length of road below ground in which vehicles moved otherwise than by hand or by animal traction or conveyors are used; or
- (c) at a place at which there may be a danger of igniting any inflammable material (including gas or coal dust);

shall be a cable protected by a metallic covering containing all the conductors forming part of that electrical system at that place:

Provided that in the case of a system in which direct current at a voltage not exceeding six hundred and fifty is used there may be separate cables each protected by a metallic covering, so however that such coverings below ground shall be bonded together at points not more than one hundred feet apart.

(5) In the case of every cable to which this regulation applies and which is protected by a metallic covering that covering shall be electrically continuous throughout and where necessary having regard to its position protected against corrosion. At any place at which there may be a danger of igniting inflammable material (including gas or coal dust) such metallic covering shall be so constructed as to minimise the risk of ignition of that material in the event of any fault in or leakage of current from a live conductor in the cable.

Flexible cables

15. (1) No single-core flexible cable shall be used for supplying portable apparatus at any mine. Each conductor in a flexible cable shall be covered with insulating material and the conductor and insulating material shall be efficiently protected from damage.

(2) A metallic covering provided to protect a flexible cable from damage shall not be used as the sole earthing conductor in respect of that cable or any apparatus connected thereto, unless that cable is of a specification approved* by the Minister.

(3) No flexible cable shall be connected to any other electrical apparatus except by means of a properly constructed connector.

Switchgear and electrical joints and connections

16. (1) All parts of switchgear and of electrical connections at every mine shall be of sufficient mechanical strength and current carrying capacity to prevent danger, in particular from rough usage.

(2) All live parts of such switchgear and connections shall be so enclosed or otherwise protected as to prevent a danger of persons accidentally coming into contact therewith, or from the deposit thereon of dust or other matter, or from water.

(3) Wherever any such switchgear or connection is at any place at which there may be a risk of igniting gas, coal dust or other material, all live parts thereof shall be so protected as to prevent external ignition thereof.

(4) Any material insulating any conductor in any cable shall be efficiently sealed at any point at which that conductor is connected to other apparatus where its insulating property might be diminished by moisture or otherwise.

*See page 186.

(5) Wherever any cable protected by a metallic covering is connected to other apparatus that metallic covering shall be securely attached to that apparatus.

Transformers

17. In any transformer at a mine suitable provision shall be made to guard against danger arising from the charging of lower voltage components by contact with or leakage from higher voltage components.

Telephone and signalling apparatus

18. Adequate precautions shall be taken to prevent any telephone wire or signalling conductor wire coming into contact with any cable or other electrical apparatus.

19. The voltage in any circuit used for signalling (otherwise than by telephone) below ground in a mine shall not exceed twenty-five.

20. (1) No electrical apparatus, other than apparatus of a type approved by the Minister for the purposes of this regulation, shall be connected into any circuit used for signalling (whether by telephone or otherwise) wholly or partly in a mine or part of a mine in which the use of lamps or lights, other than permitted lights, is unlawful:

Provided that this paragraph shall not apply to apparatus used solely to regulate the movements of cages or carriages in a shaft or unwalkable outlet:

Provided also that telephones not of a type so approved may be connected into a part of such a circuit which is on the surface of the mine or in a part of the mine in which the use of lamps or lights, other than permitted lights, is not unlawful by means of a coupling unit of a type approved by the Minister for the purpose.

(2) No source of current shall be used for operating electrical apparatus in any such circuit wholly or partly in a mine or part of a mine in which the use of lamps or lights, other than permitted lights, is unlawful except—

- (a) for direct current signalling, a battery of three pint porous-pot Leclanché cells connected in simple series or a source of current approved by the Minister for the purpose;
- (b) for alternating current signalling, a transformer of a type approved by the Minister for the purpose;
- (c) for a magneto-call telephone of a type approved by the Minister, a generator of a type specified in that approval.

(3) No part of any such circuit shall be connected to earth or to more than one source of current, except—

- (a) that the same line wires may be used for the calling and speaking circuits of telephones;
- (b) as provided in paragraph (5) of this regulation.

(4) Any magneto-call telephones connected into any such circuit shall be connected in parallel, and, if such telephones of different types are so connected, each instrument shall include a condenser of a type approved by the Minister for the purpose connected in shunt with the calling bell.

(5) Any direct current bells or relays used in connection with any such circuit shall when connected in parallel be supplied from a single source of current or when connected in series be so supplied or supplied from two identical sources of current connected in opposition.

21. Contact makers used in telephone or signalling apparatus shall be so constructed as to prevent the accidental closing of the circuit.

Apparatus for use where inflammable gas may occur

22. (1) In any part of a mine below ground in which inflammable gas although not normally present is likely to occur in a quantity sufficient to indicate danger, no electrical apparatus shall be used if there is in the normal working thereof a risk of incensive sparking* therefrom.

(2) In any such part of a mine all rubbing contacts in any motor shall be so arranged or enclosed as to prevent incensive sparking.

Notices

23. It shall be the duty of the manager of every mine to secure that notices are kept posted in such positions and such characters as to be easily seen and read, that is to say—

- (a) a notice prohibiting unauthorised persons from tampering with electrical apparatus, wherever such persons have access to any place in which such apparatus other than cables is installed;
- (b) a notice containing directions upon the procedure in case of fire, at every place at which electrical apparatus, other than cables or telephone or signalling apparatus, is installed; and
- (c) a notice containing directions upon the treatment of persons suffering from electric shock, wherever apparatus is installed from which a dangerous shock might be received.

Saving

24. Nothing in these regulations shall apply to any electrical apparatus which is not used and is not intended to be used as, and does not form and is not intended to form, part of the equipment of a mine.

Exemptions

25. The Chief Inspector of Mines, if he is satisfied that the application of any provision of these regulations is inappropriate in relation to any mine or part of a mine or is not requisite for safety in relation to any electrical apparatus therein, may by notice served on the manager of that mine grant exemption from that provision in respect of that mine or part thereof or in respect of that apparatus, as the case may be.

Interpretation

26. (1) In these regulations, unless the context otherwise requires the following expressions have the meanings hereby respectively assigned to them, that is to say—

*As defined in Regulation 26(1). Apparatus complying with this requirement is certified by the Ministry and lists are published from time to time.

‘the Act’ means the Mines and Quarries Act, 1954;

‘circuit breaker’ includes a fuse;

‘concentric cable’ means a cable in which an outer conductor is disposed around an inner conductor;

‘electrical apparatus’ includes electric cables and any part of any machinery, apparatus or appliance being a part designed for the generation, conversion, storage, transmission or utilisation of electricity;

‘flexible cable’ means a cable which is designed to be movable while in use;

‘incendive sparking’ means, in relation to any electrical apparatus, sparking in such circumstances that inflammable gas present in the air outside the apparatus might be ignited directly or indirectly;

‘metallic covering’ in relation to any cable means an iron or steel wire covering and any lead or other metallic sheath provided in addition thereto or an iron or steel pipe;

‘mine’ has the meaning assigned thereto in regulation one;

‘portable apparatus’ includes any electrical apparatus that is designed to be moved while working.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) APPROVED SPECIFICATION OF FLEXIBLE CABLE

(Regulation 15 (2) of the Coal and Other Mines (Electricity) Regulations, 1956)

By an approval dated 31st December, 1956, the Minister, in pursuance of Regulation 15 (2) of the Coal and Other Mines (Electricity) Regulations, 1956, approved the specification of Type No. 21 cable of British Standard Specification for Trailing Cables for Mining Purposes numbered 708, either as revised in February, 1940, and amended in August, 1940, or as revised in January, 1950, and amended in May, 1950.

The approval only has effect when the cables are used with portable apparatus in accordance with the following conditions:

- (a) the cables must supply power to the portable apparatus on a three-phase circuit at a voltage between phases not exceeding 650 volts with the neutral point earthed;
- (b) the portable apparatus must be interlocked electrically with an automatic switch, on an interlock circuit including the pilot core and the armouring of the cable; and
- (c) the interlock circuit must be supplied with electricity at a voltage not exceeding 30 volts, and must be so arranged that, in the event of any interruption of the circuit, the supply of electricity to the flexible cable is cut off by the automatic opening of the switch.

10. BLASTING

(a) THE COAL MINES (EXPLOSIVES) REGULATIONS, 1956*

By the Coal Mines (Explosives) Order, 1956 (S.I. 1956, No. 1767), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal Mines (Explosives) Regulations, 1956.

The order provides that any certificate, exemption, consent, approval, authority, determination or scheme granted or made for the purpose of the Coal Mines (Explosives) Order, 1951, shall, if in force at the commencement of the Act and so far as it could have been granted or made for the purposes of these regulations, have effect as if it had been so granted or made.

PART I

Application

1. These regulations shall apply to every mine of coal, and in these regulations 'mine' means such a mine.

PART II

Mines and parts of mines in which only permitted explosives may be used

2. (1) At any mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful, no person shall take or use below ground any explosive other than explosive of a type and description approved by the Minister for use in places hazardous by reason of the presence or possibility of inflammable gas or of combustible dust (hereinafter referred to as 'permitted explosive').

(2) No person shall take into or use in any part of a mine, being a part in which safety-lamps are for the time being in use by way of temporary precaution, any explosive other than a permitted explosive.

(3) No person shall use any explosive other than a permitted explosive—

(a) in a length of road which as regards any working face is an intake airway and which begins at a shaft or outlet or the current of air in which is subsequently split; or

(b) in a length of road through which coal is, or during the last preceding six months has been, transported by means of a conveyor or in vehicles moved otherwise than by hand or by animal traction; or

(c) in any place within thirty feet of such a road (not being a roadhead).

(4) If an inspector is of opinion that any part of a mine is dry and dusty he may serve on the manager a notice stating that he is of that opinion and requiring him to ensure that no explosive other than a permitted explosive is taken into or used in that part of the mine and any such notice shall, if it is so specified therein, become operative forthwith.

*Certain words, which are used in these Regulations in a special sense which is defined in Regulation 71, appear too frequently to be footnoted separately. It is advisable, therefore, to read the definitions before studying any provision, and particularly one in which any of the following words occur: 'cross-measure drift', 'detonator', 'explosive', 'round', 'safety fuse' or 'sheathed explosive'.

(5) The provisions* of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph and the relevant ground of objection to such a notice shall be that that part of the mine is not so dry and dusty as to make the use therein of explosives other than permitted explosives dangerous.

PART III

Appointment and qualification of shot firers

3. (1) No person shall fire a shot in any mine unless he has been appointed to fire shots by the manager of that mine. Any person so appointed is hereinafter referred to as 'a shot firer'.

(2) No shot firer shall fire a shot in any mine by means of a delay detonator or in a round of more than six shots unless he is appointed so to do by the manager of that mine. The manager shall include a record of any such appointment in the record of the appointment of that shot firer kept in pursuance of section one hundred and thirty-four of the Act.

(3) No shot firer firing shots in the regular course of his employment in any mine or part of a mine in which no explosives other than permitted explosives may be used shall be paid by wages depending upon the amount of mineral gotten:

Provided that this paragraph shall not apply—

- (a) by virtue of the firing of shots in a part of the mine in which no explosives other than permitted explosives may be used by reason only that safety-lamps are for the time being in use therein by way of temporary precaution; or
- (b) to a shot firer who is a master sinker or who is a deputy whose district consists of a shaft in the course of being sunk.

Qualification of shot firers

4. (1) No person shall be qualified to be appointed or to be a shot firer unless—

- (a) he has attained the age of twenty-two years, or such less age not being less than twenty-one years as may be approved† by the Minister having regard to any special qualification held by him, and has had the practical experience specified in paragraph (2) of this regulation; or
- (b) he is the holder of a service certificate made under paragraph (6) of article twelve of the Coal Mines (Explosives) Order, 1951.

(2) The practical experience referred to in the last preceding paragraph is three years' practical experience below ground in a mine including employment for not less than eighteen months in one or more of the following, namely—

- (a) getting or cutting coal;
- (b) ripping in a roadhead;
- (c) setting or withdrawing supports at or building packs at a face at which coal is being worked;

*See Section 170, page 83.

†An age of 21 has been approved in respect of persons who hold the General Certificate in Mining or any higher qualification.

- (d) drilling shot holes at a face at which coal is being worked;
- (e) for not more than six months, repairing or enlarging roads or driving cross measure drifts;
- (f) in the case of a master sinker or a deputy whose district consists of a shaft in the course of being sunk, sinking operations.

5. No person shall be qualified to be appointed or to be a shot firer at a mine in which no explosive other than permitted explosive may be used and no shot firer shall fire a shot in a part of a mine in which no explosive other than permitted explosive may be used, not being such a mine or part of a mine by reason only that safety-lamps are for the time being in use therein by way of temporary precaution, unless (in addition to the qualification required under the last preceding regulation)—

- (a) he is the holder of a first or second class certificate of competency valid with respect to that mine; or
- (b) he is the holder of a shot firer's certificate granted by the Minister on the recommendation of the Mining Qualifications Board and he has spent not less than five shifts in practising shot firing in a mine under the close personal supervision of a shot firer; or
- (c) he is the holder of a service certificate made under paragraph (6) of article twelve of the Coal Mines (Explosives) Order, 1951, being a certificate which states that he regularly fired shots in a mine to which Part II of the Explosives in Coal Mines Order, 1934, applied;

and he has within the last preceding five years obtained a certificate* that he was then able to recognise the various gas caps formed in a flame safety-lamp in atmospheres containing one and one-quarter per cent by volume of inflammable gas and more being a certificate granted by a university or university college or by a school, college or institution maintained or assisted by a local education authority, or by another body approved† by the Minister for that purpose.

6. No shot firer shall be appointed to fire shots in any mine by means of a delay detonator or in a round of more than six shots unless he has during not less than five shifts been employed in connection with the firing of such shots under the close personal supervision of a shot firer authorised to fire such shots who was not then supervising any other person for the purposes of this regulation.

7. Any certificate required by the preceding provisions of this Part of these regulations to be held as a qualification by any person for the time being employed as a shot firer at any mine shall be kept at the office at that mine or at such other place as may be approved by an inspector.

PART IV

Storage, issue and conveyance of explosives and detonators

8. (1) The manager of a mine shall not permit any explosive, detonator or safety fuse to be stored thereat except in a place on the surface appointed by him for the purpose (hereinafter referred to as 'an explosives store').‡

*M. & Q. Form No. 290.

†No other bodies have been approved for this purpose.

‡See Memorandum on the Storage of Explosives at Mines, page 208.

(2) The manager of every mine in which explosives are used shall appoint at least one place, which shall be situated conveniently near the top of each shaft or outlet normally used by workmen, as a place for the deposit of explosives and detonators brought out of the mine, and may appoint a place (other than an explosive store) for the issue thereof.

(3) The manager of every mine in which explosives are used shall appoint such number of competent persons and make such arrangements as to secure that a competent person is in charge of each explosives store and place appointed for the purposes of the last preceding paragraph whenever explosives or detonators are to be issued or returned thereat.

9. No person shall cap safety fuse with a detonator at any place at a mine except at a workshop used in connection with an explosives store in pursuance of section forty-seven of the Explosives Act, 1875.

Control of issue of detonators

10. (1) All detonators at an explosives store or at a place appointed in pursuance of paragraph (2) of regulation eight shall, except during a shift for which the manager of the mine has appointed a competent person to have charge of that store or place, be in the sole charge of the manager.

(2) No person shall be in possession of any detonator at any place at a mine other than an explosives store or a place appointed for the storage, issue or deposit of explosives except a shot firer to whom the detonator has been issued for use or a person authorised in writing by the manager of the mine so to be and save as aforesaid no person shall issue or take any detonator from such a store or place.

Conveyance and care of detonators

11. (1) No person shall take any detonator below ground in a mine except in a securely locked detonator case provided by the owner of the mine:

Provided that nothing in this paragraph shall prevent a primer cartridge fitted with a detonator being taken into a shaft in the course of being sunk for use therein.

(2) No person shall put a detonator into a detonator case if it would then contain a delay detonator as well as a detonator which is not a delay detonator.

(3) No person shall put a delay detonator into a detonator case unless the detonator is clearly marked with a number which indicates the period of delay and that period does not exceed five seconds.

(4) The manager of every mine in which detonators are used shall ensure that no detonator case is issued to a shot firer unless it is so constructed and maintained that when the case is closed it is impossible for any detonator or the leads of any detonator contained in the case to touch any metal part thereof which is exposed outside the case or is in contact with any other metal part so exposed.

12. (1) Any shot firer to whom a detonator case has been issued shall—

- (a) retain the key of the case in his own possession throughout the period during which he is on duty;
- (b) ensure that, apart from any check sheet for recording shots fired by him, nothing except detonators is in it;
- (c) keep it separate from any receptacle containing explosives;

- (d) ensure that at any time at which it is not on his person it is in a safe place and, unless he remains in the immediate vicinity, in a securely locked box which does not contain any explosive; and
- (e) if at the end of his period of duty it contains any detonator, return it to the appropriate place on the surface appointed for the storage or deposit of explosives.

(2) No shot firer shall remove a detonator from a detonator case unless it is required immediately for charging a shot hole.

Conveyance and care of explosives

13. No person shall take any explosive below ground in any mine unless it is in the form of a cartridge.

14. (1) Except in pursuance of the next following regulation, no person shall take any explosive below ground in any mine unless it is in a closed canister stoutly constructed and containing not more than five pounds of explosive:

Provided that nothing in this paragraph shall prevent a primer cartridge fitted with a detonator being taken into a shaft in the course of being sunk for use therein.

(2) Every person having any canister of explosives in his possession or control shall ensure that it is not deposited at any time elsewhere than in a place of safety, and in particular if at the end of his period of duty the canister contains any explosive shall return it to the appropriate place on the surface appointed for the storage or deposit of explosives or, if he received it from a reserve station established for the purposes of a scheme of transit, to that reserve station or to a person and at a place appointed by the manager for the purposes of that scheme.

(3) No person below ground shall unlock or open any canister of explosives or take any explosive from any canister unless the shot firer concerned requires to check the quantity of the explosives or the explosive is required immediately for charging a shot hole or the act in question has been authorised by a deputy or other official of the mine.

Conveyance of explosives in bulk

15. (1) Subject to the following provisions of this regulation the manager of any mine may as respects that mine or any part thereof make a scheme for the conveyance of explosives in bulk (herein referred to as a 'scheme of transit') whereby explosives packed at an explosives store in securely locked canisters of any size may be conveyed in a special carriage to one or more reserve stations in that mine or part of the mine or to the working face.

(2) Every scheme of transit shall contain provisions for securing safety with respect to each of the following matters—

- (a) the location, construction and marking of each reserve station and the custody of the keys thereof;
- (b) the design and construction of the special carriage;
- (c) supervision of and precautions to be taken during the transit of the carriage;
- (d) supervision of any explosives at a reserve station;

- (e) if explosives are to be taken in bulk to any working face, the manner of so doing;
 - (f) the maximum quantity of explosives to be at any reserve station at any time;
 - (g) the control of the issue of explosives from any reserve station;
 - (h) the return of explosives to a reserve station or other place appointed by the manager.
- (3) Every scheme of transit shall contain provisions to ensure that—
- (a) the quantity of explosives conveyed into the mine in pursuance thereof at any time together with any quantity so conveyed already in the mine does not exceed the quantity estimated to be required for use during the period of twenty-four hours next following;
 - (b) except in pursuance of a provision of the scheme, no explosive shall while being conveyed in bulk be taken nearer to a working face (not being only a place in a road at which ripping or work of repair is in progress) than the reserve station nearest to that face.
- (4) A scheme of transit may impose duties and prohibitions on persons employed at the mine and those persons shall comply therewith. It shall be the duty of the manager of the mine to secure that the provisions of any scheme of transit for that mine are executed and enforced.
- (5) If an inspector is of opinion with respect to a scheme of transit that the provisions contained therein in pursuance of paragraph (2) of this regulation are not adequate to secure safety, he may serve on the manager of the mine a notice stating that he is of that opinion, specifying the nature of the provision which in his opinion ought to be made and requiring the manager to amend the scheme accordingly, and any such notice shall, if it is so specified therein, become operative forthwith.
- (6) The provisions* of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph, and the relevant ground of objection shall be that the provisions contained in the scheme of transit in pursuance of paragraph (2) of this regulation are adequate to secure safety.
- (7) The person in charge of the explosives at any reserve station shall ensure that any explosives remaining thereat at the end of his period of duty are either delivered by him to a person appointed to have charge of them during the immediately following shift or are returned to the explosives store.
- (8) The manager of every mine at which a scheme of transit is in operation shall ensure that a copy thereof is provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and that a copy thereof is supplied to each shot firer employed at the mine.

PART V

Equipment of a shot firer

16. (1) For each shot firer on duty there shall be provided by the owner of the mine—

*See Section 170, page 83.

- (a) a tool made entirely of wood suitable for charging and stemming shot holes;
- (b) a scraper suitable for cleaning out shot holes; and
- (c) in the case of a shot firer in a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful or in the case of a shot firer on duty in a part of a mine in which safety-lamps are for the time being in use by way of temporary precaution, a break detector of a design approved by the Minister (which detector may incorporate the scraper required by sub-paragraph (b)).

(2) Each shot firer who is to fire shots by means of electric shot firing apparatus shall be provided by the owner of the mine with the necessary cable of a specification approved† by the Minister—

- (a) if shots are to be fired in a round, for multi-shot firing; or
- (b) in any other case, for single-shot firing.

17. No shot firer shall fire a shot in any mine by means of electric shot firing apparatus or cable not provided by the owner of the mine.

18. (1) In any mine or part of a mine in which no explosive other than permitted explosive may be used, no shot firer shall fire a shot except by means of electric shot firing apparatus of a specification approved by the Minister—

- (a) if shots are to be fired in a round, for multi-shot firing with all explosives;
or
- (b) in any other case, for single-shot firing with all explosives:

Provided that if an inspector is of opinion in any case that it is expedient to allow the firing of a number of shots in a round for which no such multi-shot firing apparatus has been approved, he may by notice served on the manager of the mine permit the use therefor of electric shot firing apparatus specified in the notice.

(2) In a mine or part of a mine to which the last preceding paragraph does not apply, no shot firer shall fire a shot by means of electric shot firing apparatus other than apparatus of a specification approved by the Minister—

- (a) if shots are being fired in a round, for multi-shot firing with all explosives or with explosives which are not permitted explosives; or
- (b) in any other case, for single-shot firing with all explosives or with explosives which are not permitted explosives.

(3) Nothing in this regulation shall prevent the use of shot firing apparatus in accordance with the following provisions of these regulations in connection with miss-fired shots and, in a case in which a shot or shots in a shaft are to be fired by means of shot firing apparatus on the surface, nothing in paragraph (1) shall prevent the use of apparatus of a specification approved by the Minister for firing with explosives which are not permitted explosives.

19. A shot firer who is in charge of any electric shot firing apparatus—

- (a) shall retain the removable handle or key in his own possession throughout his period of duty;

*See page 213.

†See page 214.

(b) shall not place the removable handle or key in position in the apparatus until he is about to fire a shot; and

(c) shall remove it from the apparatus immediately after firing each shot.

20. (1) If any electric shot firing apparatus appears to be defective, the shot firer in charge of it shall not use it further but shall cause it to be returned to the surface forthwith and shall report the circumstances to the manager in writing.

(2) If any electric shot firing apparatus approved for multi-shot firing fails to fire all the shots in any properly connected round at one operation, it shall be deemed to be defective for the purposes of the last preceding paragraph but it may be used to fire the shots in that round in accordance with the provisions of regulation sixty.

21. It shall be the duty of the manager of every mine in which electric shot firing apparatus is used to make and secure the efficient carrying out of arrangements to ensure that—

(a) all such apparatus is thoroughly cleaned and overhauled at intervals not exceeding three months by the manufacturer thereof or by a competent person appointed for that purpose by the manager;

(b) all multi-shot firing apparatus is tested at the surface at intervals not exceeding seven days in a manner approved* by the Minister in respect of apparatus of that type;

(c) if in connection with the firing of a round of shots by means of any such apparatus any miss-fire in a round after firing occurs, that apparatus is tested at the surface in such a manner before it is again taken below ground;

(d) no such apparatus is taken or used below ground unless on the last previous test thereof it was found to be in satisfactory order; and

(e) the date of each cleaning and overhaul and the result of each test carried out in pursuance of this regulation is entered in a book† provided for the purpose by the owner of the mine.

Misuse of equipment

22. (1) No person shall open or tamper with any electric shot firing apparatus below ground.

(2) No person shall use shot firing cable for any purpose other than shot firing.

PART VI

Shot firing—all mines

Drilling and cleaning shot holes

23. (1) No person shall drill a shot hole or any part thereof with a drill of which the diameter does not exceed by at least one-eighth of an inch the diameter of any cartridge to be inserted in that shot hole.

*See page 215.

†M. & Q. Form No. 240 (154).

(2) No person shall for the purpose of testing, cleaning out or charging any shot hole use any tool other than the appropriate tool provided for the purpose by the owner of the mine.

24. (1) No person shall begin to charge any shot hole unless it has been thoroughly cleaned out.

(2) No person shall use compressed air to clean out any shot hole unless he ensures that the giving off of any dust is minimised.

Charging shot holes

25. (1) No person shall charge a shot hole unless he is a shot firer or is doing so under the supervision of a shot firer, and no shot firer shall charge a shot hole, or permit a shot hole to be charged, before it is necessary to do so for the purpose of firing a shot.

(2) No person shall begin to charge any shot hole unless he has satisfied himself by taking all reasonable precautions that it is so placed and drilled as to be safe for the firing of a shot.

(3) Except in the case of shots to be fired in one round or of a relieving shot for the purposes of a miss-fire, no person shall charge a shot hole if there is a charged shot hole within ninety feet thereof.

(4) No person shall charge a shot hole to be fired as one of a round in a cross measure drift, heading or ripping or in a shaft or staple-pit until all shot holes for that round have been completely drilled.

26. (1) No shot firer shall permit more than one canister of explosives to be open at any one time for the charging of shot holes by him or under his supervision.

(2) No person shall charge a shot hole—

(a) otherwise than with a complete cartridge or complete cartridges; or

(b) with cartridges of different diameters or of explosives of different descriptions.

(3) No person shall remove any external sheathing from a sheathed explosive.

(4) No person shall press any cartridge into a shot hole if it cannot be inserted without the use of force.

(5) Any person charging a shot hole shall to the best of his judgment ensure that it is not overcharged having regard to the task to be performed.

27. (1) Except in accordance with the provisions of Part IX of these regulations in relation to a miss-fire, no person shall insert more than one detonator into a shot hole.

(2) No shot firer shall fire a shot by means of a detonator except by means of an electric detonator or safety fuse capped with a detonator at a workshop in accordance with regulation nine.

(3) No shot firer shall use any detonator in firing a round of shots electrically in any mine unless—

(a) it is a low tension detonator or a delay detonator; and

(b) it has copper leading wires.

(4) No shot firer shall use a delay detonator unless it is clearly marked with a number which indicates the period of delay and that period does not exceed five seconds.

(5) Where a delay detonator is to be used and the charge is to consist of more than one cartridge, the person charging the shot hole shall insert the primer cartridge first with the detonator at the back of the hole.

28. (1) Any person charging a shot hole shall ensure that it is stemmed with sufficient suitable and non-inflammable stemming to prevent a blown out shot.

(2) Except where a device for pneumatic stemming approved* by the Minister is being used, no person shall insert any tool not made entirely of wood into a shot hole containing explosive.

29. (1) No person shall remove any stemming from any charged shot hole otherwise than by means of water.

(2) No person shall pull out any detonator lead from any charged shot hole.

(3) No person shall remove any explosive from any charged shot hole.

Firing shots

30. (1) No shot firer shall fire any shot unless he has satisfied himself by taking all reasonable precautions that it is in a shot hole so placed and drilled as to be safe for the firing of a shot and is charged and stemmed in accordance with the provisions of these regulations.

(2) Subject to the provisions of the last preceding paragraph, each shot firer shall unless prevented by circumstances beyond his control fire every shot which has been charged by him or under his supervision.

31. Each shot firer shall keep a record of all shots fired by him on each shift of his in a book† provided by the owner of the mine for that purpose.

Firing shots electrically

32. (1) Except in a cross measure drift or in a shaft in the course of being sunk, no shot firer shall fire more than six shots in any one round.

(2) Where a round of shots is to be fired by means of electric shot firing apparatus, the shot firer shall ensure that—

(a) the detonators are connected in series;

(b) no additional wire is used for connecting any detonator leads to each other.

(3) No shot firer shall use any cable for firing shots if its length is less than—

(a) sixty feet when a single shot is being fired otherwise than in a shaft in the course of being sunk;

(b) one hundred and fifty feet when a round of shots in coal is being fired;

(c) two hundred and ten feet when a round of six shots or less is being fired in stone;

(d) six hundred feet when a round of more than six shots in a cross measure drift, or any shot in a shaft in the course of being sunk, is being fired.

*See page 216.

†M. & Q. Form No. 241 (52).

(4) A shot firer who is about to use shot firing cable shall ensure that it is not in, and cannot make, contact with any other cable or electric apparatus.

(5) No person other than a shot firer shall couple any shot firing cable to any detonator or to shot firing apparatus.

(6) No shot firer shall couple a shot firing cable to shot firing apparatus for the purpose of firing a shot unless the cable has already been coupled by him to the detonator or detonator circuit.

(7) No shot firer shall fire any round of shots by means of electric shot firing apparatus unless he has tested the circuit for continuity by means of a testing device approved* by the Minister and has found it to be satisfactory. A shot firer shall not make any such test unless all persons in the vicinity have withdrawn to a place of safety, and he himself has taken proper shelter.

Firing shots by fuse

33. (1) No shot firer shall fire a single shot by fuse less than three feet in length or any shot in a round by fuse less than four feet in length.

(2) Not more than one shot firer shall charge shot holes or permit shot holes to be charged or fire shots by means of fuse at any one time in any working place or at any working face which does not exceed one hundred and fifty feet in length.

(3) At any working face exceeding one hundred and fifty feet in length no shot firer shall fire any shot by means of fuse within one hundred and fifty feet of another charged shot hole unless he has satisfied himself that no other shot firer is about to fire that other shot.

(4) Except where means approved by the Minister of firing a round of shots by means of fuse is used, no shot firer shall attempt to fire more than four shots at one time by means of fuse.

(5) Where any shot is to be fired by means of fuse the shot firer shall ensure that—

(a) no naked light or person smoking is directly above, or within four feet in any other direction of, any shot hole, explosive or detonator;

(b) all surplus explosives are removed from the vicinity of the shot hole before a light is brought near to it for the purpose of lighting the fuse.

Warning and shelter

34. In every case where a shot may blow through into another place the shot firer concerned shall cause due warning to be given to all persons in that place, and he shall after firing the shot cause notice to be given to them that the period of danger is ended.

35. (1) Any shot firer proposing to fire a shot shall before firing determine the danger zone likely to be created.

(2) No shot firer shall fire any shot unless he has—

(a) at each entrance to that danger zone either posted a sentry or placed an appropriate fence conspicuously marked with the words 'danger' and 'shot firing';

*See page 216.

- (b) ensured that all persons have withdrawn from that zone or have taken proper shelter; and
- (c) himself taken proper shelter.

36. (1) No person who has been posted as a sentry by a shot firer shall leave the place where he was posted until directed so to do by the shot firer in person.

(2) No person shall pass a danger sign exhibited for the purpose of shot firing without the authority of the shot firer or shall pass a sentry who has forbidden him to do so.

Precautions after shot firing

37. (1) Every shot firer after firing a shot shall—

- (a) ascertain by a personal examination whether it is safe for ordinary working to be resumed in each working place affected by that shot; and
- (b) ensure that any necessary action is taken to make each such place safe for such working.

(2) Where a round of shots has been fired the shot firer—

- (a) shall not make that examination, if it was a round of six shots or less, before the expiry of five minutes or, in any other case, before the expiry of ten minutes;
- (b) shall in the course of his examination examine for sockets in the face, for any explosive remaining in any such socket and, if he has reason to think that any shot may not have completely exploded, for any unexploded charge in the material brought down.

PART VII

Shot firing—additional provisions for mines in which only permitted explosives may be used

Shot firers' maximum number of shots

38. (1) For each shot firer firing shots in the regular course of his employment in any mine or part of a mine in which no explosives, other than permitted explosives, may be used, the manager shall fix the maximum number of shots which he may fire in any one hour and in any one shift being in each case a number consistent with the requirements of safety:

Provided that the numbers so fixed shall not apply to shots fired in a round of more than six shots.

(2) If the manager proposes to fix a maximum exceeding ten for any one shift for a shot firer who is a deputy assigned to a district for that shift he shall give to the inspector for the district notice thereof in such form* as may be specified by the Minister.

(3) If an inspector is of opinion that the firing of more than ten shots in a shift by a shot firer referred to in a notice given under the last preceding paragraph is inconsistent with the requirements of safety, he may within fourteen days of the receipt of that notice serve on the manager a notice requiring him not to fix a number for that shot firer exceeding a number specified in the notice, and any such notice shall if it is so specified therein become operative forthwith.

*M. & Q. Form No. 242 (139).

(4) If an inspector is of opinion that any maximum number of shots fixed by the manager for any shot firer is inconsistent with the requirements of safety he may serve on the manager a notice requiring him to reduce that number to a number not exceeding that specified in the notice:

Provided that an inspector shall not serve a notice under this paragraph in relation to a number of which notice was given under paragraph (2) unless there has been a material change in the circumstances since the date of that notice.

(5) The provisions* of Part XV of the Act with respect to notices served by inspectors shall apply to a notice served under either of the two last preceding paragraphs and the relevant ground of objection to such a notice shall be that the firing by the shot firer in question of the maximum number of shots fixed or proposed to be fixed will not be inconsistent with the requirements of safety.

39. (1) The manager shall give notice to each shot firer of each maximum fixed under the last preceding regulation in relation to him and shall record each such maximum in a book† provided by the owner of the mine for the purpose.

(2) No shot firer shall in any one hour or in any one shift fire a greater number of shots than the permitted maximum notified to him under the last preceding paragraph:

Provided that those numbers shall not apply to shots fired in a round of more than six shots.

Restrictions on shot firing where inflammable gas is present

40. (1) If any determination of firedamp content made in pursuance of Part II of the Coal and Other Mines (Ventilation) Regulations, 1956,‡ at any point in any part of a mine shows a firedamp content exceeding one-and-a-quarter per cent., the manager shall take such steps as are necessary for securing that no shot firer fires a shot in that part of the mine on the return side of that point during the period described in paragraph (4) of this regulation.

(2) If any deputy to whom a deputy's district is assigned in a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful finds at any place a firedamp content exceeding one-and-a-quarter per cent or can see at any place in the general body of the air an indication of gas on the lowered flame of a safety-lamp, he shall ensure—

(a) that no shot is fired or shot hole charged in his district on the return side of that place during the period described in paragraph (4) of this regulation; and

(b) if the air in question will ventilate any part of any other deputy's district, that the deputy in charge thereof is informed of the facts.

(3) A deputy to whom such information is given shall ensure that no shot is fired or shot hole charged in any part of his district ventilated by air which has been found to contain inflammable gas as aforesaid during the period described in paragraph (4) of this regulation.

(4) Any prohibition imposed by this regulation shall continue as regards any place until the senior official on duty at the mine has satisfied himself that the firedamp content at the place at which it was found does not exceed one-and-a-quarter per cent. and has authorised the resumption of shot firing.

*See Section 170, page 83.

†M. & Q. Form No. 243 (139A).

‡See page 159.

(5) The manager shall forthwith give to the inspector for the district notice of any occasion on which shot firing is required to be suspended by this regulation by virtue of a firedamp content at any place exceeding one-and-a-quarter per cent. unless such content was caused by the temporary derangement of the ventilation.

Restrictions on certain shots

41. If the face of any cross measure drift in a part of a mine in which no explosives, other than permitted explosives, may be used contains a seam of coal more than twelve inches thick, or is in waste, or is known to have approached within fifteen feet of any such seam or of waste, no shot firer shall in that drift—

(a) use any delay detonator; or

(b) fire any round of more than six shots;

unless an inspector by notice served on the manager consents thereto.

42. In a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful or in any part of a mine being a part in which safety-lamps are for the time being in use by way of temporary precaution, no shot firer shall fire a shot—

(a) in the roof of any longwall working between the coal face and the waste;
or

(b) in any waste.

Precautionary examinations

43. (1) The provisions of this regulation shall apply to every mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful and to every part of a mine being a part in which safety-lamps are for the time being in use by way of temporary precaution.

(2) No shot firer shall fire a shot unless he has carried out with respect to it an examination for general safety and tests for the presence of inflammable gas in accordance with the following provisions of this regulation. Every such test for inflammable gas shall be made with a locked flame safety-lamp of a type approved* by the Minister for the purpose of deputies' inspections, a methanometer of a type approved by the Minister or other apparatus of a type approved by the Minister for the purpose.

(3) No shot firer shall fire a shot or charge a shot hole if on any such test made with respect to it he finds a percentage of inflammable gas exceeding one-and-a-quarter per cent. or he can see an indication of gas on the lowered flame of a safety-lamp.

(4) If shots are to be fired singly in succession in coal along a longwall face, the shot firer concerned shall arrange the shots in groups of not more than six and shall fire all the shots in any such group so far as practicable without interruption for duties other than shot firing.

(5) If a shot firer intends to fire shots in one or more rounds or groups in any area he shall—

*See page 177.

- (a) before shot firing in that area is begun carry out an examination for general safety and test for the presence of inflammable gas over the whole of that area and the approaches thereto;
 - (b) immediately before the first shot hole of any round or group is charged, test for gas—
 - (i) in every accessible place within thirty feet of either of the two shot holes in the round or group which are farthest apart;
 - (ii) at the mouth of each shot hole in the round or group;
 - (iii) if the shots are to be fired at a face, and there is waste in the vicinity, throughout that part of the workings which is between the face and the waste and between those two shot holes;
 - (c) immediately before firing any round or any shot in a group, test for gas in the vicinity of each shot hole and at the edge of any waste opposite.
- (6) If a shot firer intends to fire a single shot otherwise than as one of a group he shall—
- (a) immediately before the shot hole is charged, carry out an examination for general safety and test for gas—
 - (i) in the vicinity and at the mouth of the shot hole;
 - (ii) if the shot hole is in a longwall face, throughout every accessible place within, if the shot hole is not within sixty feet of the end of the face, thirty feet from the shot hole, or, if it is within sixty feet of the end of the face, sixty feet therefrom;
 - (b) immediately before firing, test for gas in the vicinity of the shot hole and at the edge of any waste opposite.

Preparation and charging of shot holes

44. Unless an inspector by notice served on the manager consents thereto, no shot firer shall charge a shot hole in any coal face in a part of a mine in which no explosives, other than permitted explosives, may be used unless the coal has been holed or sheared to a depth greater than the depth of the shot hole:

Provided that this regulation shall not apply to a shot hole in anthracite or to any shot hole in a cross measure drift.

45. (1) In a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful and in any part of a mine being a part in which safety-lamps are for the time being in use by way of temporary precaution, any person drilling a shot hole in coal or in a ripping and finding a break along or across it which exceeds one-eighth of an inch in width shall mark the hole concerned in a distinctive manner. No shot firer shall charge any shot hole so marked.

(2) In any such mine or part of a mine no shot firer shall charge any shot hole in coal or in a ripping unless he has tested, with the break detector with which he is provided, for breaks running along or across it and has satisfied himself that no such break exceeding one-eighth of an inch in width exists.

46. (1) No person other than a shot firer shall charge any shot hole in a part of a mine in which no explosives, other than permitted explosives, may be used:

Provided that nothing in this paragraph shall apply to a holder of a shot firer's certificate who is practising shot firing under the close personal supervision of a shot firer.

(2) No person shall stem any such shot hole unless he is a shot firer or is doing so under the supervision of a shot firer.

47. (1) No shot firer shall charge a shot hole in a part of a mine in which no explosives, other than permitted explosives, may be used with an aggregate weight or length of explosive exceeding the maximum specified on any cartridge forming part of the charge.

(2) No shot firer shall use in any such part of a mine—

(a) any detonator except an electric detonator with a copper tube;

(b) any delay detonator except in a cross measure drift or in a shaft in the course of being sunk.

48. In a mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful and in any part of a mine being a part in which safety-lamps are for the time being in use by way of temporary precaution, no shot firer shall—

(a) begin to charge any shot hole in under-cut coal or in a roof ripping within three hundred feet of a coal face unless he has inserted a plug of stemming at the back of the hole; or

(b) charge any shot hole in a roof ripping within sixty feet of the face otherwise than with sheathed explosive.

PART VIII

Shot firing—additional provisions for shafts and staple-pits

49. No person shall take any explosive into a shaft or staple pit for use therein unless it is immediately required for charging a shot hole.

Primer cartridges

50. No person other than a shot firer shall take a primer cartridge* fitted with a detonator into a shaft in the course of being sunk and no shot firer shall take such a cartridge into such a shaft otherwise than in a thick felt bag or other receptacle suitable for protecting it from shock.

Detonators

51. No shot firer shall fire a shot in a shaft or staple-pit except by means of an electric detonator.

Precautions before firing

52. (1) No shot firer shall couple a shot firing cable to a detonator in a shaft or staple-pit provided with winding apparatus unless—

(a) the kibble is conveniently placed for men in the shaft or staple-pit to enter it; and

(b) he has satisfied himself that the person operating the winding apparatus is ready to raise.

(2) No shot firer shall couple a shot firing cable to shot firing apparatus for the purpose of firing any shot in a shaft or staple-pit unless all persons who may be affected are in a place of safety.

*See also the provisos to Nos. 11 (1) and 14 (1) of these Regulations.

Precautions after firing

53. No person shall enter a shaft or staple-pit after a shot has been fired therein until it has been inspected by the deputy in pursuance of regulation fifteen or paragraph (4) of regulation thirty-two of the Coal and Other Mines (Managers and Officials) Regulations, 1956.*

PART IX

Miss-fires

A. Single shots

Meaning of 'single-shot miss-fire'

54. (1) For the purposes of this Part of these regulations, all shots fired by fuse shall be deemed to be single shots.

(2) A shot being fired as a single shot shall be treated as a miss-fire (hereinafter referred to as a 'single-shot miss-fire'), if it fails to explode, in the case of a shot being fired—

- (a) by fuse, after the shot firer has withdrawn after once lighting or attempting to light the fuse; or
- (b) electrically, after the shot firer, having attempted unsuccessfully to fire the shot, has followed the procedure described in paragraph (3) of this regulation.

(3) The said procedure is that the shot firer shall—

- (a) disconnect from the shot firing apparatus the removable handle or key and the shot firing cable;
- (b) after waiting five minutes, examine the cable and connections for any defect, and remedy any defect so found;
- (c) make a further attempt to fire the shot, for which purpose he may use shot firing apparatus of a type approved by the Minister for multi-shot firing for not more than six shots with the appropriate explosive.

Single-shot miss-fires, general precautions

55. In the event of a single-shot miss-fire, no person shall approach the shot hole until, if the shot is being fired—

- (a) by fuse, there have elapsed, from the lighting of the fuse or the attempt to light it, not less than thirty minutes; or
- (b) electrically, the removable handle or key and the shot firing cable have been disconnected from the shot firing apparatus, and there have elapsed, from the last attempt to fire the shot, not less than five minutes.

Single-shot miss-fires, remedial action

56. (1) In the event of any single-shot miss-fire, the shot firer concerned shall ensure that either—

- (a) the procedure described in paragraph (2) of this regulation is complied with; or
- (b) the stemming is removed with water, an additional primer inserted in the shot hole with proper stemming, and the shot then duly fired, as provided in these regulations.

*See pages 111 and 116.

(2) The said procedure is as follows—

- (a) a shot hole shall be drilled not nearer to the miss-fire than twelve inches, and, so far as is practicable, parallel to, and of equal depth to, its shot hole;
- (b) if the miss-fire contains a detonator, the leads or fuse thereof shall be attached by a string to the shot firing cable, or to some distinctive marker;
- (c) a shot shall be duly fired in the shot hole aforesaid;
- (d) if the miss-fire is not dislodged, the procedure herein described shall be repeated.

B. Shots in a round

Circuit not continuous

57. (1) If, when the circuit of a round is tested in pursuance of paragraph (7) of regulation thirty-two, it is found not to be continuous, the shot firer shall comply with the following procedure, that is to say—

- (a) examine the shot firing cable and connections for defects (after disconnecting the cable from the shot firing apparatus, if the testing device formed part of it);
- (b) remedy any defect so found; and
- (c) subject to the provisions of the said paragraph (7), test the circuit again for continuity.

(2) If the test aforesaid is successful, the provisions of this Part of these regulations shall not apply in relation to that round, unless one or more of the shots fails to explode when fired.

(3) If the said test is unsuccessful, the shot firer shall, by individual tests for continuity (which shall be subject to the provisions of paragraph (7) of regulation thirty-two), determine the faulty shot or shots.

Meaning of 'miss-fire in a round', &c.

58. (1) A shot being fired in a round shall be treated as a miss-fire (hereinafter referred to as a 'miss-fire in a round'), if—

- (a) by the individual tests under paragraph (3) of regulation fifty-seven, it is found to be a faulty shot (any such shot being hereinafter referred to as a 'miss-fire in a round by broken continuity'); or
- (b) when the round is fired, it fails to explode (whether or not all other shots in the round have exploded) (any such shot being hereinafter referred to as a 'miss-fire in a round after firing').

(2) Whenever, in the event of any miss-fire in a round, any shot forming part of the round is, for the purposes of remedial action under regulation fifty-nine or sixty required to be fired singly, it may be fired by means of the shot firing apparatus used for firing the round.

Remedial action

59. (1) In the event of a miss-fire in a round by broken continuity, the shot firer concerned shall ensure that either—

- (a) the procedure described in paragraph (2) of this regulation is complied with; or

- (b) the stemming is removed with water, an additional primer inserted in the shot hole with proper stemming, and the round duly connected up, tested and fired, as provided in these regulations.
- (2) The said procedure is as follows—
- (a) the leads of the detonator of the miss-fire shall be attached by a string to the shot firing cable, or to some distinctive marker;
 - (b) the other shots in the round (excluding, where delay detonators are being used, any shot having a higher period of delay) shall be duly connected up, tested and fired, as provided in these regulations;
 - (c) if it has been dislodged, any shots having a higher period of delay shall be duly connected up, tested and fired;
 - (d) if it has not been dislodged—
 - (i) If there were any shots having a higher period of delay, they shall be fired in turn, in ascending order of delay (in each delay period, the shot which is nearest to the miss-fire being fired first); and
 - (ii) in any other case, it shall be treated as a single-shot miss-fire.
- 60.** (1) In the event of a miss-fire in a round after firing—
- (a) no person shall approach the shot hole unless the removable handle or key and the shot firing cable have been disconnected from the shot firing apparatus; and
 - (b) the shot firer concerned shall at the expiry of the period specified in regulation thirty-seven make a personal examination as provided in that regulation, whether or not any shot in the round has exploded.
- (2) If there were more than one miss-fire, the shot firer shall connect them in series and fire them as a round as provided in these regulations.
- (3) If there was one miss-fire only, or if one or more miss-fires, fired as a round in pursuance of paragraph (2), fails or fail to explode, the shot firer shall fire it, or each of them, as the case may be, singly.
- (4) Any miss-fire, fired singly as aforesaid and failing to explode, shall be treated as a single-shot miss-fire.
- 61.** (1) Whenever, in pursuance of this Part of these regulations, in relation to any round of shots, any shot in the round is fired while one or more shots already charged remain unexploded, the shot firer concerned shall, in the course of his examination made in pursuance of regulation thirty-seven, ascertain whether any such shot has been dislodged.
- (2) The provisions of regulation sixty-four shall apply to the recovery and disposal of the detonator and charge of any shot so dislodged.

C. All miss-fires

62. No person shall attempt to remove any part of the charge from the shot hole of any shot which is to be treated as a miss-fire.

63. In the case of any shot which is to be treated as a miss-fire or any round of shots of which the circuit has been found not to be continuous, if the shot firer concerned leaves the working place before the shot or shots have been fired or the detonator and cartridges have been dislodged and the provisions of the next following regulation have been complied with he shall—

- (a) cause notice of the circumstances to be given to the deputy in charge of the district; and
- (b) ensure that sufficient fences and danger notices are erected to warn any person approaching the place.

64. Whenever any miss-fire is dislodged by the firing of another shot there shall be made under the supervision of the shot firer or an official of the mine before any person resumes work and before any further shot is fired at or near that place a search for the detonator (if any) and the charge thereof and if any detonator or cartridge is not found all mineral so dislodged shall be conveyed out of the mine separately from any other mineral and under the like supervision.

65. In the event of any miss-fire, the shot firer shall, before leaving the mine, report the circumstances thereof to the senior official on duty at the mine, and shall record the fact of the miss-fire in his daily record of shots.*

PART X

Apparatus and explosives for killing horses

66. (1) Nothing in Parts II to IX of these regulations except regulation eight shall apply to such apparatus or such cartridges of explosive as are approved† by the Minister for use in mines for destroying horses.

(2) No person shall take or use below ground in any mine for any other purpose any such apparatus or cartridge.

67. The manager of every mine shall ensure that horse-killing apparatus is—

- (a) kept in the custody of a competent person appointed by him and used only by that person or under his close personal supervision;
- (b) cleaned and examined immediately after use on any occasion.

68. (1) The manager of every mine shall ensure that cartridges for horse-killing are issued from the explosives store only to a person appointed to have custody of horse-killing apparatus and in a case or box with a lock provided by the owner of the mine.

(2) No person shall put any cartridge for horse-killing into a receptacle containing any other kind of explosive or a detonator.

(3) Every person having a case or box of cartridges for horse-killing shall keep it separate from any other receptacle containing explosive or detonators and shall keep it locked.

(4) No person shall remove any cartridge for horse-killing from its case or box below ground until it is required for immediate use.

69. (1) In any mine in any part of which the use of lamps or lights, other than permitted lights, is unlawful or in any part of a mine being a part in which safety-lamps are for the time being in use by way of temporary precaution, no person shall fire a shot with horse-killing apparatus unless immediately before

*M. & Q. Form No. 241 (52).

†The Exit Humane Horse Killer, submitted by N. J. Muschamp & Company, Grove Street Works, Mansfield Woodhouse (Ammunition: Kynoch's-320 blank loaded with either 4 or 5 grains of black powder) has been approved, subject to its being used only with this ammunition.

firing a competent person has made tests for the presence of inflammable gas throughout every accessible place within thirty feet of the place where the shot is to be fired and it has been found safe for the firing of that shot.

(2) Every such test shall be made with a locked flame safety-lamp of a type approved by the Minister for the purpose of deputies' inspections, a methanometer of a type approved by the Minister or other apparatus of a type approved by the Minister for the purpose.

(3) No person shall fire a shot with horse killing apparatus if on any such test made with respect to that shot there has been found a firedamp content exceeding one-and-a-quarter per cent. or an indication of gas on the lowered flame of a safety-lamp has been seen at any place.

PART XI

General

Exemptions

70. The Chief Inspector of Mines if he is satisfied that the application of any provision of these regulations is inappropriate in relation to any mine or part thereof may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

71. (1) In these regulations, unless the context otherwise requires, the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘cross measure drift’ includes any drift driven otherwise than in coal or otherwise than for the purpose of getting coal therefrom;

‘deputy’ and ‘deputy’s district’ have the meanings assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;

‘detonator’ includes safety fuse capped with a detonator;

‘explosive’ does not include a detonator;

‘explosive store’ has the meaning assigned thereto in regulation eight;

‘firedamp content’ means the percentage of inflammable gas present in the general body of the air;

‘mine’ has the meaning assigned thereto in regulation one;

‘miss-fire in a round’, ‘miss-fire in a round by broken continuity’ and ‘miss-fire in a round after firing’ have the meanings respectively assigned thereto in regulation fifty-eight;

‘permitted explosive’ has the meaning assigned thereto in regulation two;

‘round’, in relation to shots, means (subject to the provisions of paragraph (1) of regulation fifty-four) a number of shots fired—

(a) electrically in series, either simultaneously or by means of delay detonators; or

(b) by fuse, by means of apparatus approved for firing a number of shots by fuse simultaneously; or

(c) where the number does not exceed four, by fuses lighted at the same time;

'safety fuse' means fuse consisting of gun powder protected either by not less than three coverings of thread or by not less than two coverings of thread and one of tape or gutta-percha, being of such a quality that the rate of burning does not vary more than ten seconds above or below the rate of ninety seconds for each three feet of fuse;

'scheme of transit' has the meaning assigned thereto in regulation fifteen;

'sheathed explosive' means explosive covered by an external sheath of incombustible material spread evenly over the sides of the cartridge, and includes explosive in any type of cartridge certified by the Minister to be equivalent in safety to sheathed explosive;

'shot firer' has the meaning assigned thereto in regulation three;

'single-shot miss-fire' has the meaning assigned thereto in paragraph (2) of regulation fifty-four.

(2) In these regulations any reference to the use of explosive includes the charging of a shot hole therewith.

(3) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(4) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) MEMORANDUM ON THE STORAGE OF EXPLOSIVES AT MINES

1. Under the Mines and Quarries Act, 1954, and the Coal Mines (Explosives) Regulations, 1956, all explosives used at a mine to which the Act applies must be provided by the owner of the mine and a suitable place above ground must be provided for the storage of the explosive. A suitable place has also to be provided conveniently near the entrance of the mine, for the storage of the unused explosive which the workmen are required to bring out at the end of each shift. The storage place should be at a safe distance from a shaft, engine-house or other vital point.

2. In making provision for the storage of explosive, the mine owner or manager has to comply with the requirements of the Explosives Acts, 1875 and 1923, and the orders made under those Acts, and this memorandum is designed to explain briefly the nature of those requirements and the methods by which the storage accommodation required can be provided to suit the varying circumstances of different mines.

There are three ways in which explosive in sufficient quantity for mining purposes may be kept—

(a) in premises registered with the Local Authority;*

(b) in a 'store' licensed by the Local Authority;*

(c) in a magazine licensed by the Secretary of State.

*See note on Local Authorities on page 210.

3. Method (a) can be adopted where small quantities of explosive only are in store at any one time, and is often a suitable way of providing storage for unused explosive brought out of the mine when the main store is not conveniently near the mine entrance. The amount of explosive kept in this way must not exceed 200lb. of gunpowder, or 60lb. of other explosive or of mixed explosives. The conditions to be observed are contained in Section 22 of the Act and Order in Council No. 16 which should be consulted, but the main provisions are as follows :

The place of storage must be registered with the Local Authority and (if explosive other than gunpowder is kept) the manager or other responsible person having charge of the premises must hold a certificate from the Police that he is a fit person to keep the explosives.

The storage place must be a building substantially constructed of brick, stone, iron or concrete or an excavation made in solid rock, earth, or mine refuse not liable to ignition. It must be entirely appropriated* to the keeping of explosive and must be detached from a dwelling-house. It must also be situated at a safe distance (say 15 yards, or less if suitable protection intervenes) from any highway, street, public thoroughfare or public place, but there are no further requirements as to the distances to be maintained between the storage place and other buildings and works in the vicinity.

The precautions mentioned in paragraphs (vii), (x) and (xii) of the summary of main requirements as to licensed stores given at the end of this memorandum must be observed.

4. Method (b) provides for larger quantities, and includes five different kinds of 'Stores', named Divisions A, B, C, D and E. The quantity of explosive that may be kept in each class of store is as follows :

Division A	150lb. of general explosive†		
„ B	300lb.	„	„
„ C	1,000lb.	„	„
„ D	2,000lb.	„	„
„ E	4,000lb.	„	„

The conditions which apply to these stores are contained in Order in Council No. 6 of 27 November, 1875, as amended by the Store for Explosives Order, 1951, No. 1163, and a summary of them is given at the end of this memorandum.

5. The most important requirements which mine owners have to consider is that which provides that all stores shall be placed at certain distances from other buildings and works. An important modification in these distances, however, is often of material assistance to mine owners in cases where the surface space at the mine is restricted. By the Stores for Explosives Order, 1951 it is provided that in the case of stores licensed before 1st July, 1952, the distances may, in the case of a store of Divisions C, D and E, be reduced by half provided the protected work is in the occupation of the licensee and is completely screened from the

*Very small quantities, however, viz., up to 50lb. of gunpowder or 15lb. of other explosive or of mixed explosives, may be kept in a building not so appropriated, provided they are kept in a substantial receptacle properly closed and secured and exclusively appropriated to the purpose.

†General Explosive means an explosive of Classes 1, 2, 3 and 4 and of the 2nd and 3rd Divisions of Class 6 of the Home Office list of Authorised Explosives published by H.M.S.O.

store by a natural or artificial mound of earth, or other suitable material not less than three feet thick at the height of the eaves of the store. Further, it is provided by the same Order that the distance between a store in any of the four divisions and a mineral railway or private railway or tramway line worked by the occupier need not be more than 75 feet, if the door or doors of the store be closed and secured when and so long as any locomotive driven by steam is within 150 feet of the store.

6. In cases where larger quantities than those mentioned above are required or where, owing to special local circumstances, it is impracticable to find a suitable place for a store, it will be necessary to provide a magazine under licence of the Secretary of State (i.e., Method (c)). In the first instance, it is advisable to communicate with Her Majesty's Inspectors of Explosives, Home Office, London, S.W.1., who will be prepared to consider the special requirements of each case and to recommend such conditions to suit the circumstances as may safely be entertained. The quantity of explosive that may be kept in a magazine is limited only by the provisions of the licence.

Workmen's canisters may be filled and kept in any place of storage provided as above.

LOCAL AUTHORITIES

England and Wales

The Town Council is the Local Authority in any—

- (a) County Borough.
- (b) Quarter Sessions Borough (other than a County Borough) having over 10,000 inhabitants according to the Census of 1881.
- (c) Borough having over 10,000 inhabitants according to the Census of 1881, for which a special Order has been made under Section 68 of the Explosives Act.

Elsewhere the Local Authority is the County Council which has, however, a power of delegation under the Act to—

- (a) a Committee of its own body;
- (b) an Urban or Rural District Council;
- (c) the Justices in Petty Sessions.

The Councils of County Boroughs have the same power of delegation as County Councils.

Scotland

In any Royal or Parliamentary Burgh the Local Authority is the Magistrates and Town Council.

Elsewhere the Local Authority is the County Council which has, however, power of delegation to a joint Committee of its own body and of any Town Councils within the County.

In Duns and Govan, for which a special Order has been made under Section 112 of the Act, the Police Commissioners are the Local Authority.

SUMMARY OF THE MAIN REQUIREMENTS AS TO LICENSED STORES

- (i) The store must be licensed by the Local Authority, in the name of the occupier for mixed explosives.
- (ii) The licence must be renewed annually.

(iii) The store must not be situated below ground in any mine, quarry or tunnel, or other underground place in which any persons are employed, or in any place opening into, from, or out of such mine, quarry, tunnel or underground place, or in communication therewith.

(iv) All buildings and places adjoining each other and occupied together are deemed to be one store, and must accordingly be included in one licence.

(v) The following distances must be maintained from the store:

Protected Works of Class 1

Protected Works of Class 2

Dwelling-house.
Shop.
Room, of any kind.
Workshop, of any kind.
*Mineral or private railway, whether or not worked by steam.
Furnace or kiln or fire.
Magazine for explosive.
Store for explosive.
Registered premises.
Highway, public footpath, or promenade or open place of resort for the public, or for persons engaged in any trade or business.
Canal or navigable water.
Dock, river-wall or sea-wall.
Pier or jetty.
Reservoir.

In occupation of licensee, or with consent in writing of occupier.

Dwelling-house.
Shop.
Room, of any kind.
Workshop, of any kind.
Railway, whether or not worked by steam.
Furnace or kiln or fire.
Magazine for explosive.
Store for explosive.
Registered premises
Factory of any kind.
Buildings in care of Minister of Works.
Place of public worship.
Educational establishments.
Hospital or like institution.
Court of Justice.
Theatre, cinema, covered market or other covered building where persons are accustomed to assemble.
Government or local government buildings.

Without the consent of the occupier.

Store belonging to	Distances from Protected Works of Class 1†	Distances from Protected Works of Class 2
Division A . .	75 feet	85 feet
Division B . .	75 feet	130 feet
†Division C . .	146 feet	292 feet
†Division D . .	230 feet	460 feet
†Division E . .	352 feet	704 feet

(vi) Detonators must be kept effectively separated from other explosive. If a considerable quantity of detonators is required they may be kept in an annexe to the store which will be regarded as part of the store (the annexe should be of the same construction as the store and at least a few feet away from it); or in a place registered in accordance with the method first mentioned in the memorandum (the

*The store shall not be required to maintain a greater distance than 75 feet from a mineral or private railway worked by the licensee, provided that the door or doors of the said store be kept closed and secured when and so long as any locomotive driven by steam is within a distance of 150 feet of the store. 'Mineral or private railway' includes a tramway or incline. (S.I. 1951, No. 1163.)

†In the case of stores licensed before 1st July, 1952, when the 'protected work' is in the occupation of the licensee, and is completely screened from the store by a natural or artificial mound of earth or other suitable material not less than three feet thick at the height of the eaves of the store, the distances may be reduced by one-half. (S.I. 1951, No. 1163.)

colliery office may be registered for the purpose if the gross weight of the detonators does not exceed 15lb. and the detonators are kept in a locked box or drawer exclusively appropriated to the purpose; see footnote on page 209). For a few hundred detonators, however, a cupboard in the porch of the store, so arranged that it cannot be opened unless the inner door of the store is closed, may be allowed. For weights of detonators, see table at the end of this summary.

(vii) When any explosive which is liable to be dangerously affected by water is kept, due precautions must be taken to exclude water from the store. This applies specially to ordinary dynamite, which is now seldom used. It is very necessary, however, to keep all explosives and detonators dry, or loss of efficiency and miss-fires will probably result.

(viii) The store must be well and substantially built of brick, stone, iron, steel or concrete, or excavated in solid rock, earth or mine refuse not liable to ignition, and so made and closed as to prevent unauthorised persons having access thereto, and to secure it from danger from without. Its construction must also be substantial and such as to render it not liable to unlawful entry, or to danger from accident or from evilly disposed persons; accordingly, it should be provided with good doors, and all ventilators, windows, keyholes and other openings should be so closed or protected as to satisfy all reasonable requirements of security.

(ix) If licensed under Divisions C or D, and made otherwise than by excavation, the store must have attached a sufficient lightning conductor.

(x) The interior of the store, and the benches, shelves and fittings therein must be so constructed or so lined or covered as to prevent the exposure of any iron or steel, and the detaching of any grit, iron, steel or similar substance in such manner as to come into contact with the explosive. This provision can best be complied with by lining the store with wood or other suitable material. A wooden lining will be easier to keep clean if painted or varnished, and will last much longer if the planks are thus treated on both sides before being placed in position. The floor must be of wood or asphalt free from grit. Nails should be preferably of copper, brass or zinc; but if iron nails are used, they should be countersunk and puttied over. All exposed ironwork, in the building should be efficiently covered with wood, leather or zinc, or should be thickly painted.

(xi) All tools and implements used in the store must be of wood, copper, brass or some soft metal or material, or be covered with some safe and suitable material.

(xii) The interior, benches, shelves and fittings of the store must, so far as is reasonably practicable, be kept free from grit and otherwise clean.

(xiii) Due provision must be made by the use of suitable shoes or otherwise for preventing the introduction into the store of grit or of any exposed iron or steel. At every store there should be a visible boundary, formed by a step or by a vertical 'footboard' (about four inches high), or otherwise, beyond which dirty or iron-nailed boots should never pass, except directly into over-boots of leather, rubber or other suitable material made without any iron; and these over-boots should in their turn never be placed outside the 'clean' boundary (the word 'clean' being here used in a technical sense, implying the exclusion of all grit), or be deposited where they can take up grit. Over-boots made very large (so as easily to take in the whole boot and lower part of the trousers) are more convenient than those which necessitate removing the ordinary boots, or which entail trouble and delay in putting on.

(xiv) Due provision must be made by the use of suitable working clothes without pockets, searching, or by some of such means for preventing the introduction into the store of fire, matches, or any substance or article likely to cause explosion or fire, or any iron, or steel, or grit. (N.B.—The use of an artificial light of such construction, position or character as not to cause any danger of fire or explosion is

permitted, e.g., an approved electric safety lamp or fixed electric lights of a type approved under the Coal and Other Mines (Safety-Lamps and Lighting) Regulations, 1956, or when the presence of inflammable liquid or gas is not involved, dust-tight electrical installations which conform to the Home Office specification may be used—see paragraph 3 (b) of the Home Office memorandum on Electric Light and Power in Factories and Magazines for Explosives).

This important provision can best be satisfied by requiring the storekeeper to wear a pocketless magazine suit, and forbidding other persons to enter. But as this is not always practicable or convenient, the storekeeper should be required not only habitually to search his own pockets, but also the pockets of any other persons who may enter the store, in order to detect and remove therefrom any dangerous articles, among which may be included a pipe, as this is sometimes placed in the pocket before it has been properly extinguished.

(xv) No person may smoke in any part of the store.

(xvi) No person under the age of 16 may be employed in or enter the store except in the presence and under the supervision of some person of the age of 21 or upwards, and no person under the age of 16 may be employed in the store.

(xvii) No repairs are to be executed to or in any part of the store, except after the store has, so far as is practicable, been cleaned by the removal of all explosive and the thorough washing out of the store.

(xviii) The store is to be used only for the keeping of explosive and receptacles, tools or implements for work connected with the keeping of such explosive.

(xix) A warning notice to trespassers must be kept conspicuously posted up.

Weights of Detonators

Size of Detonator	Gross Weight per 1,000 Detonators	Remarks
No.	lb.	
3	3.19	} Not much used
3a	3.31	
4	3.62	
5	4.23	
6	4.95	} Common sizes
6½	5.50	
7	7.06	
8	8.66	
9	9.76	} Not much used
10	10.86	

(c) APPROVALS FOR PURPOSES OF THE COAL MINES
(EXPLOSIVES) REGULATIONS, 1956

(i) BREAK DETECTOR

The design of break detector described below is approved for the purposes of Regulation 16 (1) (c):

1. *General*

A straight stiff rod or tube, made of hard brass, steel, aluminium alloy, or other material of similar rigidity and durability, with a flat prong at one end, which forms an integral part of it or is securely attached to it, and which is made of, or tipped with, hard wearing metal.

2. Dimensions

Length of rod or tube—at least four feet six inches, or six inches longer than the depth of the deepest shot hole in which the detector is to be used, whichever is the greater.

Diameter of rod or tube—not more than half inch.

Length of prong—not less than three-quarters inch, not more than one inch, from the centre of the rod or tube.

Width and thickness of prong at tip—not more than three-thirty-second inch.

Note—

(1) *The specified design requirements are intended to ensure that the break detector is suitable for detecting any break of over one-eighth inch in width (Regulation 45 (2) of the Coal Mines (Explosives) Regulations, 1956). In order that such longitudinal breaks can be found, the prong should not only have a limiting width at the tip of three-thirty-second inch or less (as specified) but should also taper steeply so that the point will drop sufficiently far into the break. This means that the width of the prong at the base must be kept sufficiently small.*

(2) *If a hollow tube, instead of a solid rod, is used, there is no objection to filling it with a core of wood. Soft metal, such as copper, is unsuitable, because it soon becomes bent and worn. One method of forming the detector prong is to turn over and shape a suitable length of a steel rod and then to coat the tip with a hard-wearing alloy, while a duralumin rod, for example, will require the fitting of a separate prong of steel tipped with hard-wearing alloy.*

(3) *The break detector may incorporate a scraper, preferably attached at the opposite end from the detector prong. It is desirable that the scraper attachment should not comprise more than half a disc, so as to minimise the risk of its mis-use for charging or stemming.*

(ii) SHOT FIRING CABLES

The following specifications of shot firing cables are approved for the purposes of Regulation 16 (2):

(a) Cable for Single Shot Firing

Two-core cable, each core consisting of a conductor of at least four copper wires of not less than 0.018 inch in diameter, with insulation and further protection against mechanical wear and damage not less than that of P.V.C. (Polyvinylchloride) 0.025 inch in thickness with a figure eight construction, or of vulcanised rubber or P.V.C. 0.020 inch in thickness the two cores twisted, wormed and covered with a sheath of cotton braid, tough rubber or P.V.C.

External colour—Yellow

(b) Cable for Multi-Shot Firing

Single-core cable, consisting of a conductor of at least three copper wires of not less than 0.036 inch in diameter, insulated to withstand at least 250 volts, and further protected against mechanical wear and damage.

External colour—White

(c) Cable for Shot Firing in Shafts

Two-core cable, each core consisting of a conductor of at least seven copper wires of not less than 0.029 inch in diameter, insulated to withstand at least 250 volts and adequately protected against mechanical wear and damage.

Note.—The following are the methods of insulation and protection for multi-shot firing cables which are available at present and which are regarded as suitable:

- (1) *insulated by vulcanised rubber or P.V.C., protected by taping, braiding and fire-resisting compounding;*
- (2) *insulated by vulcanised rubber, protected by a tough rubber sheath or P.C.P. (Polychloroprene) sheath; or*
- (3) *insulated by P.V.C., protected by a P.V.C. sheath.*

(iii) TESTS OF ELECTRIC MULTI-SHOT FIRING APPARATUS

The methods of tests specified below are approved, for the purposes of Regulation 21 (b), as the tests for all electric multi-shot firing apparatus at the surface of a mine at intervals not exceeding seven days :

(A) *The 'Six-shot Fusehead Tester' for use with—*

(i) The 'Derby' Six-Shot L.T. Exploder (Electrical Shot-firing apparatus approval Nos. 14 and 17);

(ii) the 'M.E.6' Mk. 1 Six-Shot Exploder (Electrical Shot-firing apparatus approval No. 18).

(a) *Description of Tester*

A device comprising six metal clips, each designed to hold a 'Testex' low tension fusehead in a vertical position, a fine wire is arranged to be close to or touching each of the fuseheads, and a non-inductive resistor of such a value as to equate the total resistance of the circuit, including the six fuseheads, to that of a normal shot-firing circuit. These items are connected in series between the two terminals of the tester and together form the testing circuit. The fine wire is such that it will be ruptured by the firing of any of the fuseheads.

(b) *Method of use of Tester*

A 'Testex' fusehead is placed in each clip, and the fine wire arranged to be close to or in contact with each of the fuseheads. The exploder should be connected to the testing device and the continuity of the circuit checked by means of the indicator built into the exploder. If this indication is satisfactory the exploder is then operated by means of the firing key. The operation is successful if, after operation of the firing key, all six fuseheads have fired and the wire has ruptured. The exploder shot-firing ability is deemed to be adequate provided ten consecutive operations are completed successfully.

N.B.—When using exploders approved under Electrical Shot-firing Apparatus Approval No. 18, the firing key should be rotated as quickly as possible.

(B) *The 'Beethoven Fusion Tester' for use with:*

the 'Beethoven' Dynamo condenser Type Mk. 11 100-Shot Exploder (Electrical Shot-firing apparatus approval No. N/1).

(a) *Description of Tester*

A device for attachment directly to the exploder terminals, having two spring-loaded post terminals so as to provide a fixed distance which is bridged by the fuse wire provided on the small reel attached to the tester. A 150 ohms resistor is built into the tester and connected between one of the exploder attachment points and one of the spring-loaded terminal posts. The testing circuit thus comprises the 150 ohm resistance and a fixed length of the fuse wire.

(b) *Method of use of Tester*

The tester is fixed firmly to the terminals of the exploder and the wire provided is used to bridge the space between the two spring-loaded terminals.

Insert the handle into the exploder and turn until the neon indicator glows steadily. *Immediately* this happens stop winding and press the firing button. *Remove* the handle from the exploder.

The exploder is in a satisfactory condition, if after each of ten consecutive attempts, as detailed above, the wire has ruptured and no longer connects the two terminal posts.

(iv) PNEUMATIC STEMMER

The device for pneumatic stemming described below is approved for the purposes of Regulation 28 (2):

The Hurricane Stemmer, of which the injector tube is constructed of suitable non-ferrous material.

(v) CIRCUIT TESTING DEVICE

The following types of circuit testing devices are approved for the purposes of Regulation 32 (7):

1. The Davis Circuit Testing Ohmmeter, with a range of 0-300 ohms, manufactured by John Davis & Son (Derby) Limited, of All Saints' Works, Derby, and to which the Ministry of Fuel and Power Certificate Number T/EXP/35, dated 8th December, 1948, relates.

2. The Evershed Safety Ohmmeter, with ranges of 0-4, 0-5, 0-10, 0-20 and 0-100 ohms, manufactured by Evershed and Vignoles Limited, of Acton Lane Works, Chiswick, London, and to which the Ministry of Fuel and Power Certificate Number T/TI/7, dated 19th July, 1945, as extended by letter dated 4th October, 1946, relates.

(d) THE COAL MINES (CARDOX AND HYDROX) REGULATIONS, 1956

(S.I. 1956 No. 1942)

Made by the Minister under Sections 69 and 141 of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

PART I

Application

1. The provisions of these regulations shall apply to the maintenance, preparation for use and use of blasting materials and devices known as 'cardox shells' and 'hydrox shells' (hereinafter referred to collectively as 'shells') and materials for the priming and filling thereof, at every mine of coal and in these regulations 'mine' means such a mine.

PART II

Preparation, maintenance, carriage and custody of shells and equipment

2. (1) The manager of every mine shall ensure that no shell is filled or primed with an initiator on the surface at the mine except in a place appointed by him for the purpose.

(2) The manager shall ensure that no such place is used for any other purpose and that adequate means for extinguishing any fire are provided at every such place and, in the case of a place at which hydrox shells are filled or primed, that—

- (a) no inflammable materials other than those required for filling or priming shells are allowed to be thereat;
- (b) it is kept cool and dry; and
- (c) there is no smoking thereat.

3. No person shall fill or prime below ground in a mine any shell other than a shell of a type approved by the Minister for filling and priming below ground.

4. (1) The manager of every mine at which shells are filled or primed shall appoint such number of competent persons and make such arrangements as to secure that no shell is filled or primed thereat except by or under the supervision of such a person.

(2) No shell filled or primed otherwise than at the mine shall be taken below ground at any mine other than a shell filled or primed in pursuance of arrangements approved by an inspector by notice served on the manager of the mine.

Notice of approved fillings

5. (1) There shall be provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and there shall be kept posted at each place on the surface appointed by the manager for the filling or priming of shells a notice specifying the weight and type of filling approved by the Minister and the type of initiator so approved for use with each type of shell used at the mine.

(2) No person shall fill or prime any shell at a mine otherwise than with the appropriate filling and initiator specified in such a notice.

Periodic examination of shells

6. (1) The manager of every mine in which shells are used shall make and ensure the efficient carrying out of arrangements to secure that—

- (a) every shell in use and the fittings thereof are examined by a competent person appointed for that purpose by him at intervals, in the case of a shell which has been filled below ground since the last examination thereof, not exceeding thirty days, and, in any other case, not exceeding ninety days to ascertain whether there has been any significant change in the outer diameter of the shell and the condition of the screw threads with which the firing head engages the shell;
- (b) no shell is subjected to heat treatment or machining by any person other than the manufacturer thereof or in pursuance of arrangements approved by an inspector by notice served on the manager.

(2) Any person who has made such an examination shall enter a report thereof in a book* provided for the purpose by the owner of the mine.

Conveyance of shells and materials for filling and priming them

7. The manager of every mine in which shells are used shall take such steps as may be necessary for securing that shells cannot fall out of any vehicle in

*M. & Q. Form No. 229.

which they are being conveyed at the mine or out of any cage or carriage in a shaft or outlet thereat and that any vehicle in which shells are being conveyed is distinctively marked to indicate its contents.

8. (1) No person shall take below ground materials for filling or priming shells unless he is a person authorised so to do by the manager of the mine.

(2) No person shall take or convey below ground materials for filling or priming shells, other than carbon dioxide in a cylinder, except in a stoutly constructed box which is—

- (a) water-proof;
- (b) so constructed and maintained that when closed no electric charge applied to any part of the outside thereof could be conducted to the contents;
- (c) distinctively marked to indicate its contents; and
- (d) closed and locked:

Provided that a box need not comply with sub-paragraphs (a) and (b) if the materials therein are placed in a bag of such construction that the purposes thereof are achieved.

(3) Every person in charge of such a box shall ensure that it is not deposited at any time elsewhere than in a place of safety.

(4) Every person in charge of such a box shall, if at the end of his shift it contains any materials for filling or priming shells, return it to a place appointed by the manager of the mine for the purpose.

(5) No person below ground shall unlock or open any such box or take any material out of it unless a person appointed by the manager to fire shells requires to check the quantity of the contents or the material is required immediately for filling or priming a shell or the act in question has been authorised by a deputy or other official of the mine.

9. (1) Subject to the following provisions of this regulation the manager of any mine in which shells are used may as respects that mine or any part thereof make a scheme for the conveyance in bulk of materials for filling or priming shells (herein referred to as 'a scheme of transit') whereby such materials packed on the surface in boxes complying with paragraph (2) of the last preceding regulation may be conveyed in a special carriage to one or more reserve stations in that mine or part of the mine or to the working face.

(2) Every scheme of transit shall contain provisions for securing safety with respect to each of the following matters—

- (a) the location, construction and marking of each reserve station and the custody of the keys thereof;
- (b) the design and construction of the special carriage;
- (c) supervision of and precautions to be taken during the transit of the carriage;
- (d) supervision of any materials for filling or priming shells at a reserve station;
- (e) if such materials are to be taken in bulk to any working face, the manner of so doing;
- (f) the maximum quantity of such materials to be at any reserve station at any time;

- (g) the control of the issue of such materials from any reserve station;
- (h) the return of such materials to a reserve station or other place appointed by the manager.

(3) Every scheme of transit shall contain provisions to ensure that except in pursuance of a provision of the scheme, no material for filling or priming shells shall while being conveyed in bulk be taken nearer to a working face (not being only a place in a road at which ripping or work of repair is in progress) than the reserve station nearest to that face.

(4) A scheme of transit may impose duties and prohibitions on persons employed at the mine and those persons shall comply therewith. It shall be the duty of the manager of the mine to secure that the provisions of any scheme of transit for that mine are executed and enforced.

(5) If an inspector is of opinion with respect to a scheme of transit that the provisions contained therein in pursuance of paragraph (2) of this regulation are not adequate to secure safety, he may serve on the manager of the mine a notice stating that he is of that opinion, specifying the nature of the provision which in his opinion ought to be made and requiring the manager to amend the scheme accordingly, and any such notice shall, if it is so specified therein, become operative forthwith.

(6) The provisions* of Part XV of the Act with respect to references upon notices served by inspectors shall apply to a notice served under the last preceding paragraph, and the relevant ground of objection shall be that the provisions contained in the scheme of transit in pursuance of paragraph (2) of this regulation are adequate to secure safety.

(7) The person in charge of the materials for filling or priming shells at any reserve station shall ensure that any such materials remaining thereat at the end of his period of duty are either delivered by him to a person appointed to have charge of them during the immediately following shift or are returned to a place appointed by the manager of the mine for the purpose.

(8) The manager of every mine at which a scheme of transit is in operation shall ensure that a copy thereof is provided in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act and that a copy thereof is supplied to each person employed at the mine who is appointed by the manager to fire shells.

10. (1) The manager of every mine in which shells are used shall ensure that the total quantity of materials for filling and priming shells (whether or not contained in shells) below ground in the mine does not at any time exceed the quantity estimated to be required for use during the period of twenty-four hours next following.

(2) The manager of every mine in which shells are used shall make and ensure the efficient carrying out of arrangements to secure that any filled shell which remains unused at the end of a firing shift is returned to an appropriate place appointed by him for the purpose.

Appointment and qualifications of persons to fire shells

11. No person shall fire a shell in any mine unless he has been appointed to do so by the manager of that mine and is a person who is, or is qualified to be appointed, a shot firer at that mine.

*See Section 170, page 83.

Electric shot firing apparatus and cable

12. No person shall fire a shell in a mine except by means of electric shot firing apparatus and cable, both being provided by the owner of the mine and being of specifications approved* by the Minister—

- (a) if the shells are to be fired in a round, for multi-shot firing;
- (b) in any other case, for single-shot firing.

13. A person appointed to fire shells who is in charge of any electric shot firing apparatus—

- (a) shall retain the removable handle or key in his own possession throughout the period while he is on duty;
- (b) shall not place the removable handle or key in position in the apparatus until he is about to fire a shell; and
- (c) shall remove it from the apparatus immediately after firing each shell.

14. If any electric shot firing apparatus appears to be defective, the person in charge of it shall not use it further but shall cause it to be returned to the surface forthwith and shall report the circumstances to the manager in writing.

15. Nothing in these regulations shall be deemed to exclude the application to electric shot firing apparatus or cable used for firing shells of regulations twenty-one and twenty-two of the Coal Mines (Explosives) Regulations, 1956.†

External firing wires

16. No person shall connect any external firing wire to any shell at a mine until it is necessary to do so for the purpose of firing the shell.

Charging shot holes with shells

17. (1) No person shall insert a shell into a hole for firing unless he has satisfied himself by taking all reasonable precautions that the hole is so placed as to be safe for the firing of a shell, and so drilled as to enable the shell to be inserted without using undue force.

(2) No person shall press any shell into a hole for firing if it cannot be inserted without the use of undue force.

Firing shells

18. (1) No person shall fire any shell unless he has satisfied himself by taking all reasonable precautions that—

- (a) it is in a hole so placed as to be safe for firing and there has been no contravention of the last preceding regulation in connection therewith; and
- (b) measures of a kind directed by the manager of the mine have been taken to ensure that the shell is not ejected in a dangerous manner on firing.

*The Minister has approved for the purposes of this Regulation (a) any type of electric shot-firing apparatus approved by him for shot firing with all explosives for the purpose of Article 14 (2) of the Coal Mines (Explosives) Order, 1951, and (b) the specification of shot firing cables approved by him on 25th January, 1952, for the purpose of Article 14 (8) of that Order.

†See page 194.

(2) Unless an inspector by notice served on the manager consents thereto, no person shall fire a shell in any coal face unless the coal has been holed or sheared to a depth greater than the depth of the hole.

19. (1) No person shall fire a shell or a round of shells unless he has carried out with respect to it immediately before firing an examination for general safety and tests for the presence of inflammable gas in any accessible place within thirty feet of a shot hole or any of them.

(2) Every such test for inflammable gas shall be made with a locked flame safety-lamp of a type approved by the Minister for the purpose of deputies' inspections, a methanometer of a type approved by the Minister or other apparatus of a type approved by the Minister for the purpose.

(3) No person shall fire a shell if on any such test made with respect to it he finds a percentage of inflammable gas exceeding one-and-a-quarter per cent. or he can see an indication of gas on the lowered flame of a safety-lamp.

20. Where a round of shells is to be fired the person about to fire them shall ensure that they are connected in series.

21. (1) No person shall use any cable for firing shells if its length is less than sixty feet.

(2) Any person about to fire a shell shall take care to prevent the shot firing cable from making contact with any other cable or electric apparatus.

(3) No person other than the person who is to fire the shell shall couple any shot firing cable to any shell or to shot firing apparatus.

(4) No person about to fire a shell shall couple a shot firing cable to the shot firing apparatus unless the cable has already been coupled by him to the shell or shells.

(5) No person shall fire a round of shells unless he has tested the circuit for continuity by means of a testing device approved* by the Minister and has found it to be satisfactory. No person shall make any such test unless all persons in the vicinity have withdrawn to a place of safety and he himself has taken proper shelter.

Warning and shelter

22. In every case where the firing of a shell may result in blowing through into another place the person firing the shell shall cause due warning to be given to all persons in that place, and he shall after firing the shell cause notice to be given to them that the period of danger is ended.

23. (1) Any person about to fire a shell shall determine the danger zone likely to be created.

(2) No person shall fire a shell unless he has—

(a) at each entrance to that danger zone either posted a sentry or placed an appropriate fence conspicuously marked with the words 'danger' and 'shot firing';

*The Minister has approved for the purpose of this Regulation any circuit testing device approved by him for the purpose of Article 25 (11) of the Coal Mines (Explosives) Order, 1951.

(b) ensured that all persons have withdrawn from that zone or have taken proper shelter; and

(c) himself taken proper shelter.

24. (1) No person who has been posted as a sentry by a person about to fire a shell shall leave the place where he was posted unless personally directed so to do by that person.

(2) No person shall pass a danger sign exhibited for the purposes of these regulations without the authority of the person firing the shell or shall pass a sentry who has forbidden him to do so.

Precautions after shot firing

25. (1) Every person who has fired a shell shall—

(a) ascertain by personal examination whether it is safe for ordinary working to be resumed in each working place affected by that shot; and

(b) ensure that any necessary action is taken to make each such place safe for such working.

(2) Where a round of shells has been fired the person firing them shall not make that examination before the expiry of five minutes.

Miss-fires

26. If any shell fails to fire, the person attempting to fire the shell—

(a) shall not himself approach nor allow any other person to approach the shell during the interval of ten minutes after such attempt;

(b) before approaching or allowing any other person to approach the shell shall disconnect the removable handle or key and the cable from the shot firing apparatus;

(c) shall then examine the cable and connections for any defect;

(d) if he leaves the working place while the shell remains there shall cause notice of the miss-fire to be given to the deputy in charge of the district and ensure that sufficient fences and danger notices are erected to notify the miss-fire to any person approaching the place.

27. If any shell fails to fire, no person shall attempt to remove it from its hole until any external firing wire has been disconnected from it.

Record of firing

28. Each person appointed to fire shells shall keep a record of all shells fired by him on each shift of his in a book* provided by the owner of the mine for that purpose.

Exemptions

29. The Chief Inspector of Mines, if he is satisfied that the application of any provision of these regulations is inappropriate in relation to any mine or part thereof, may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

30. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

*M. & Q. Form No. 230.

'the Act' means the Mines and Quarries Act, 1954;

'deputy' has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;*

'mine' has the meaning assigned thereto in regulation one;

'scheme of transit' has the meaning assigned thereto in regulation nine;

'shell' has the meaning assigned thereto in regulation one.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

Commencement and citation

31. These regulations shall come into operation at the commencement of the Act and may be cited as the Coal Mines (Cardox and Hydrox) Regulations, 1956.

11. FIRE AND RESCUE

(a) THE COAL AND OTHER MINES (FIRE AND RESCUE) REGULATIONS, 1956

By the Coal and Other Mines (Fire and Rescue) Order, 1956 (S.I. 1956, No. 1768), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Fire and Rescue) Regulations, 1956.

The order provides that any exemption, consent or approval granted for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been granted for the purposes of these regulations, have effect as if it had been so granted:

Coal Mines Act, 1911, Sections 69 and 70.

General Regulations dated 10th July, 1913 (S.R. & O. 1913, No. 748), Regulation 122 (c).

General Regulations dated 30th July, 1920 (S.R. & O. 1920, No. 1423), Regulation 9.

Coal Mines General Regulations (Rescue), 1928 (S.R. & O. 1928, No. 971), as amended by the Coal Mines General Regulations (First Aid), 1930 (S.R. & O. 1930, No. 91), and the Coal Mines (Rescue) Amending Regulations, 1935 (S.R. & O. 1935, No. 652).

Coal Mines General Regulations, 1938 (S.R. & O. 1938, No. 797), Part I.

PART I

Application

1. Except where otherwise expressly provided, Part II of these regulations shall apply to every mine of coal . . . , Part III thereof to mines of [coal], in which or in part of which the use of lamps or lights, other than permitted lights,

*See page 107.

is unlawful, and Part IV thereof to every mine of coal . . . , other than a mine at which not more than ten persons are employed below ground, and in these regulations 'mine' shall be construed accordingly.

PART II

Fire precautions and equipment

2. (1) No highly inflammable material shall be stored below ground in any mine except in a fireproof room, compartment or box.

(2) At any mine newly opened after the sixteenth day of December, nineteen hundred and eleven, being a mine at which more than thirty persons are employed below ground, no building or structure at the top of any shaft or outlet shall be made of or comprise any inflammable material likely to cause danger from fire to any person so employed.

(3) No engine-room or motor-room constructed after the sixteenth day of December, nineteen hundred and eleven, below ground in any mine shall be made of or comprise any inflammable material likely to cause danger from fire to any person employed in the mine.

3. It shall be the duty of the manager of every mine to secure the provision of suitable and sufficient means of extinguishing fire at each of the following places, that is to say—

- (a) at the top of and at every entrance to a shaft or outlet, being a place in the construction of which inflammable material is used;
- (b) in every engine-room, motor-room or boiler gallery, being a place in the construction of which inflammable material is used; and
- (c) at any place at which inflammable material is stored.

4. It shall be the duty of the manager of every mine to secure the provision and readiness for immediate use in case of fire of a sufficient supply of suitable dust or sand in suitable containers at an appropriate place in relation to every electric motor, which is not portable apparatus for the purposes of the Coal and Other Mines (Electricity) Regulations, 1956*, transformer and switchgear installed at the mine.

5. It shall be the duty of the manager of every mine, other than a mine which is naturally wet throughout and at which not more than thirty persons are employed below ground . . . , to secure the provision and readiness for immediate use in case of fire of—

- (a) an adequate supply of water; or
- (b) sufficient portable fire extinguishers and a sufficient supply of suitable dust or sand; and
- (c) appropriate equipment for conveying and using the water, dust or sand in that case;

at appropriate places in relation to each working face and along any length of road below ground, being a length which is a main intake airway or a main return airway for the purposes of the Coal and Other Mines (Ventilation) Regulations, 1956.†

*See page 186.

†See page 169.

6. (1) It shall be the duty of the manager of every mine, other than a mine at which less than one hundred persons are employed below ground, to secure the provision and readiness for immediate use in case of fire below ground of adequate supplies of water and efficient means for delivering it promptly at adequate pressure and in adequate volume to every place in the mine at which persons work otherwise than occasionally or for short periods or which persons going to or from their working places ordinarily pass, being in either case a place at which fire is liable to occur.

(2) Except in so far as provision is made in pursuance of the last preceding paragraph to deliver water through pipelines and hose extensions to every place at which it is required to be available, provision shall be made for delivery from tanks or barrels by portable manual pumps.

7. Where at any mine machinery for cutting or getting mineral is in use at a working face at which an ignition of gas has been, or having regard to the nature of the strata is liable to be, produced by such machinery, it shall be the duty of the manager to secure that—

- (a) the machine is provided with effective means to prevent such ignition; or
- (b) a portable fire extinguisher or supply of suitable dust or sand in a suitable container is carried on the machine; or
- (c) if owing to the height of the working it is impracticable to carry such an extinguisher or such a container on the machine, portable fire extinguishers or supplies of suitable dust or sand in suitable containers are provided at suitable intervals along the face and at any point at which an airway, which as regards the face is an intake airway, meets the face.

8. No fire extinguisher which is liable when operated to give off poisonous gas shall be provided below ground whether in pursuance of these regulations or otherwise.

9. (1) It shall be the duty of the manager of every mine to make and ensure the efficient carrying out of arrangements—

- (a) whereby all equipment provided in pursuance of this Part of these regulations is inspected by competent persons appointed by him at intervals not exceeding thirty days; and
- (b) for the discharge and refilling of each fire extinguisher to ensure that it is maintained in good working order.

(2) Every person making such an inspection shall make a full and accurate report thereon to the manager in writing.

10. It shall be the duty of the manager of every mine, other than a mine at which less than one hundred persons are employed below ground, to make arrangements to secure a proper organisation of persons for combating any outbreak of fire and such arrangements shall include fire drills.

PART III*

Precautions in case of outbreak or suspected outbreak of fire

11. (1) Without prejudice to the generality of section seventy-nine of the Act if in any mine there appears any smoke or other sign indicating that a fire has or may have broken out below ground at any place, the persons in charge of

*For application of this Part see Regulation 1.

any parts of the mine likely to be affected by such a fire, by products of combustion thereof or by any explosion resulting therefrom, shall cause all persons employed at any place likely to be so affected to leave it:

Provided that in any case in which it appears to the person in charge of the part of the mine from which that sign emanates that there exists no immediate danger persons may remain there for the purpose of preventing danger from arising.

(2) Where on any occasion persons have been caused to leave any place in pursuance of the provisions of the last preceding paragraph, no person shall thereafter be permitted to enter it until after examination thereof it is reported safe for him to do so either by the manager or an under-manager of the mine and by two members of the panel appointed for the mine under section one hundred and twenty-three of the Act or, if they do not concur, by an inspector:

Provided that nothing in this paragraph shall be taken to prohibit a person from entering any place for the purpose of saving life, ascertaining the condition of that place, ascertaining or taking any measures that it is necessary to take for the purpose of rendering it safe or ascertaining the effectiveness of such measures:

Provided also that the concurrence of two members of the said panel shall not be required if such persons are not available within a reasonable period after the manager or an under-manager of the mine has informed the person for the time being nominated to receive notices under subsection (1) of section one hundred and sixteen of the Act of the occurrence.

(3) Any report under the last preceding paragraph shall be a full and accurate report* signed by the persons making it and the position of the fire or suspected fire shall, if possible, be indicated by means of a plan. A copy of any such report shall forthwith be posted at the pithead.

(4) If on any occasion it is ascertained that fire has broken out at any place the following parts of the mine shall be deemed for the purposes of paragraph (1) of this regulation to be affected, that is to say, all parts of the seam in which the fire exists and all parts of any other seam reached from an entrance below ground to a shaft or outlet being an entrance from which the first mentioned seam is reached:

Provided that a part of the mine other than that in which the fire exists shall be deemed not to be affected if it is protected against the spread thereto of any explosion by means† approved by the Minister for the purposes of this regulation, and a seam other than that in which the fire exists shall be deemed not to be affected if it is naturally wet throughout.

(5) If on any occasion a fire is being dammed off all parts of the mine below ground shall be deemed for the purposes of paragraph (1) of this regulation to be affected, and until the work is completed no person shall be permitted to go below ground except for the purposes of that work or otherwise for securing the safety of the mine.

(6) If on any occasion it is ascertained that fire has broken out at any place measures shall be taken to render harmless any coal dust in accessible parts of the mine contiguous to the fire.

*M. & Q. Form No. 261 (75).

†No means for this purpose have yet been approved.

PART IV*

Rescue

Central rescue stations

12. (1) It shall be the duty of the owner of every mine—

- (a) to provide, maintain and conduct in accordance with the following provisions of this Part of these regulations a central rescue station to provide facilities for the conduct of operations for rescue and other necessary work at that mine after an explosion or a fire, or in an atmosphere which is or may be irrespirable, thereat; or
- (b) to make arrangements to ensure that there are available to that mine such facilities provided by a central rescue station so maintained and conducted,

being a station situate within fifteen miles of the entrance to the mine or such greater distance not exceeding twenty miles as an inspector may authorise by notice served on the owner.

(2) An inspector may by notice served on the owner of a mine exempt him from the preceding provisions of this regulation with respect to that mine—

- (a) if the inspector is satisfied that there are in force effective arrangements for the conduct of operations for rescue at that mine independently of a central rescue station; or
- (b) if the mine is situate more than fifteen miles from such a central rescue station then existing and the inspector is satisfied that it would be unreasonable that the owner should be required to provide such a central rescue station; or
- (c) if the inspector is satisfied that the owner has unsuccessfully made reasonable efforts to conclude such arrangements as are referred to in sub-paragraph (b) of the last preceding paragraph and that it would be unreasonable that he should be required to provide such a central rescue station.

(3) The owner of every mine to which paragraph (1) of this regulation applies shall ensure that it is in telephonic communication with the central rescue station the facilities of which are available to that mine.

(4) Without prejudice to the generality of section one hundred and seventy-six of the Act, to an authority or exemption given under this regulation there may be attached conditions requiring the provision at the mine of rescue equipment other than or in excess of that specified in these regulations.

Superintendents of and instructors at central rescue stations

13. (1) Every central rescue station shall be under the immediate control of a competent superintendent being a person who has been fully trained in rescue work and who, unless he was so employed before the first day of January, nineteen hundred and twenty-nine, has had not less than five years' practical experience of work below ground in a mine.

(2) There shall be employed at every central rescue station instructors competent to train rescue workers.

*For application of this Part see Regulation 1.

(3) Arrangements shall be made to ensure that an instructor is present at and appointed to take charge of a central rescue station at any time when the superintendent is not present thereat.

(4) The number of instructors employed at a central rescue station at which a permanent rescue corps is maintained shall not be less than two, and, if the total number of persons employed below ground at the mines to which the facilities of that station are available exceeds fifteen thousand, shall not be less than three.

(5) The number of instructors employed at a central rescue station at which a permanent rescue corps is not maintained shall not be less than two, and, if the total number of rescue brigades required by these regulations to be maintained at the mines to which the facilities of that station are available exceeds fifty, shall not be less than three, and, if the total number of such rescue brigades exceeds one hundred, shall not be less than four.

(6) For the purposes of the two last preceding paragraphs, a superintendent who undertakes the training of rescue workers may be included as an instructor.

Permanent rescue corps

14. (1) At any central rescue station at which a permanent rescue corps is maintained that corps shall consist of not less than six men fully trained in rescue work exclusive of the superintendent and of the person appointed to take charge of the station when the superintendent is not present thereat.

(2) One or more members of the corps shall be trained to act as captain thereof.

(3) The members of the corps shall be continuously employed at and in residence at the central rescue station:

Provided that an inspector by notice served on the superintendent of the station may authorise members of the corps to reside not more than half a mile from the station so long as suitable means of summons from that residence to the station are provided.

Rescue workers to act with permanent rescue corps

15. (1) It shall be the duty of the manager of every mine at which not less than one hundred persons are employed below ground and to which the facilities of a central rescue station are available, being a station at which a permanent rescue corps is maintained, to appoint men who are employed at that mine and have a good general knowledge thereof and who have been fully trained in rescue work to co-operate with the corps in work and practice on the following scale, that is to say—

where not more than five hundred persons are employed below ground at the mine, not less than one man;

where more than five hundred but not more than one thousand persons are so employed, not less than two men;

where more than one thousand but not more than fifteen hundred persons are so employed, not less than three men;

where more than fifteen hundred persons are so employed, not less than four men.

(2) The manager of every mine to which the last preceding paragraph applies and at which more than one such man has been appointed, shall endeavour to ensure that at no time are they both or all employed below ground simultaneously otherwise than in rescue work or practice.

Rescue brigades

16. (1) It shall be the duty of the manager of every mine to which the facilities of a central rescue station are available, being a station at which a permanent rescue corps is not maintained, to organise and maintain rescue brigades on the following scale, that is to say—

where not more than five hundred persons are employed below ground at the mine, not less than one brigade;

where more than five hundred but not more than two thousand persons are so employed, not less than two brigades;

where more than two thousand persons are so employed, three brigades :

Provided that—

(a) the preceding provisions of this paragraph shall not apply as respects a mine at which less than one hundred persons are employed below ground if arrangements are in force whereby a brigade from another mine will be made available promptly in case of need; and

(b) mines of which the surface entrances to all the shafts and outlets for the time being in use lie within a circle having a radius of two miles may be treated together as one mine if the managers have made arrangements therefor and served notice thereof on the inspector for the district.

(2) The manager of every mine to which this regulation applies shall appoint not less than five men fully trained in rescue work and employed at that mine to each brigade and shall appoint one of them captain.

(3) The manager of every mine to which this regulation applies shall endeavour to ensure that at no time are—

(a) in the case of a mine at which one rescue brigade is maintained, all the members of that brigade; or

(b) in the case of a mine at which more than one rescue brigade is maintained, members of both or all the brigades;

employed below ground simultaneously, otherwise than in rescue work or practice.

Communication with rescue workers

17. The manager of every mine to which either of the two last preceding regulations applies, shall make effective arrangements for summoning every person appointed thereunder from his residence in case of need.

Saving

18. In any prosecution for a contravention of regulation fifteen or regulation sixteen it shall be a defence to prove that the manager has made reasonable efforts to induce appropriate persons to be trained in rescue work and that the failure to comply fully was due to an insufficiency of persons able and willing to acquire the requisite qualification.

Qualifications of rescue workers

19. No person shall be selected for training in rescue work with a view to appointment as a member of a permanent rescue corps, as a rescue worker to co-operate at a mine with such a corps or as a member of a rescue brigade at a mine unless—

- (a) he is certified by a registered medical practitioner after thorough examination to be fit to undertake rescue work and to be free from any organic disease or weakness;
- (b) he has had not less than two years' practical experience of work below ground in a mine; and
- (c) he is the holder of a certificate of proficiency in first aid granted by a society or body* approved by the Minister for the purpose.

20. No person shall for the purposes of these regulations be deemed to be fully trained in rescue work unless he has attended one or more courses of instruction and practice therein at a central rescue station, being courses complying with a scheme approved† by the Minister, and has been certified by the superintendent of that station to be efficient and able to undertake rescue work with breathing apparatus.

21. No person shall be qualified to be appointed or to be a member of a permanent rescue corps, a rescue worker to co-operate at a mine with such a corps or a member of a rescue brigade at a mine unless he has within the last preceding twelve months—

- (a) been certified by a registered medical practitioner after thorough examination to be fit to undertake rescue work and to be free from any organic disease or weakness; and
- (b) attended a course of instruction and practice in rescue work, being a course including practices with breathing apparatus in a hot and irrespirable atmosphere and complying with a scheme approved† by the Minister for such courses for maintaining efficiency.

Records at central rescue stations

22. There shall be kept at every central rescue station a record of every person attending a course of instruction and practice in rescue work thereat including the date and character of each practice and the condition of each man after each practice and, if anything abnormal is observed in the condition of any man, whether it is considered to be due to any defect in any apparatus used by him.

Equipment at central rescue stations

23. At every central rescue station there shall be provided and maintained in readiness for immediate use the following equipment, that is to say—

- (a) twenty complete suits of breathing apparatus of a type approved by the minister with means of supplying sufficient oxygen or liquid air to enable such apparatus to be used for forty-eight hours and means of charging such apparatus;

*See list of approved societies and bodies on page 279.

†See page 237.

- (b) four smoke helmets or other apparatus serving the same purpose, being helmets or apparatus of a type approved by the Minister, with not less than one hundred and twenty feet of tubing for each;
- (c) four sets of reviving apparatus, not being apparatus of a forced breathing type, each with a cylinder or cylinders capable of supplying not less than twenty cubic feet of oxygen;
- (d) a first aid box of a type approved by the Minister;
- (e) twenty electric safety-lamps and six flame safety-lamps;
- (f) cages of small birds for testing for noxious gas;
- (g) a motor vehicle of adequate capacity;
- (h) two portable signalling devices; and
- (i) means for training persons to test for inflammable gas with a flame safety-lamp.

Rescue equipment at mines

24. It shall be the duty of the manager of every mine, other than a mine at which less than one hundred persons are employed below ground, to secure the provision and readiness for immediate use thereat of the following equipment, that is to say—

- (a) a smoke helmet or other apparatus serving the same purpose, being a helmet or apparatus of a type approved by the Minister with not less than one hundred and twenty feet of tubing;
- (b) a set of reviving apparatus, not being apparatus of a forced breathing type, with a cylinder or cylinders capable of supplying not less than twenty cubic feet of oxygen;
- (c) one electric safety-lamp and one flame safety-lamp for each man fully trained in rescue work and employed at that mine; and
- (d) two small birds for testing for noxious gas.

Breathing apparatus

25. (1) Subject to any exemption given by an inspector by notice served on the manager, breathing apparatus shall not be kept at any mine but shall be obtained as required for rescue work or training thereat from a central rescue station.

(2) Every suit of breathing apparatus kept at a central rescue station, or at a mine in pursuance of an exemption given under the last preceding paragraph, shall be adjusted and tested at the times and in the manner specified in the first schedule hereto and the results thereof shall be recorded in accordance with those provisions.

(3) No oxygen cylinder shall be used for re-charging breathing apparatus unless a part of the contents has been analysed and found to contain not less than ninety-eight per cent. of oxygen. A record shall be kept of the result of every such analysis.

(4) No suit of breathing apparatus shall be used below ground in any mine unless as soon as may be before use it has been tested for leakage by immersion in the manner specified in the first schedule hereto and found safe except—

(a) upon a practice in air which is not irrespirable; or

(b) in a case in which subjection to such a test would prejudice an attempt to save life and the apparatus has been tested immediately before use for leakage by mouth suction.

(5) Without prejudice to the operation of sections one hundred and sixteen and one hundred and seventeen of the Act, on the happening of any accident or occurrence at a mine likely to require the use of breathing apparatus, the manager shall inform by the quickest means available the inspector for the district and the person for the time being nominated to receive notices under subsection (1) of section one hundred and sixteen of the Act.

Signals for use in rescue work

26. In rescue work and training therefor the signals specified in the second schedule hereto and no other shall be used for the purposes specified in relation thereto.

Accommodation for rescue workers at mines

27. (1) It shall be the duty of the manager of every mine to secure the provision on the surface thereat of a suitable room with sufficient accommodation for any persons who may be engaged in rescue work or practice. That room shall be near to a shaft or outlet normally used by persons employed below ground at the mine and shall be adequately heated and lighted and kept clean and properly maintained.

(2) At every mine at which not less than one hundred persons are employed below ground the said room, if not permanently separated from accommodation used for any other purpose, shall be so arranged that it can readily be so separated. The equipment provided in pursuance of these regulations at that mine shall be kept therein.

(3) The manager of every mine shall appoint a responsible person to be in charge of the room provided in pursuance of this regulation.

Plans

28. It shall be the duty of the manager of every mine to keep at the mine or at such other place as may be approved by an inspector a sufficient number of sets of plans, in a form suitable for use by rescue workers, of the workings of the mine, so that at any time there are plans for each part of the mine showing clearly and accurately up to a date not more than three months past the extent of the workings, the airways and the direction of the air current therein and all principal doors, stoppings, air crossings and regulators and telephone stations by means of the signs specified in the third schedule hereto.

Inspection of equipment, &c.

29. It shall be the duty of the owner of every mine to which the facilities of a central rescue station are available to make arrangements for the inspection at intervals not exceeding six months by the superintendent of the station or an instructor nominated by him of the accommodation and equipment provided thereat for rescue work and training. Such arrangements shall ensure that on any such inspection the superintendent or his nominee shall be accompanied by an official of the mine and that any defect or deficiency disclosed thereby is promptly reported to the manager of the mine.

Provisions relating to conduct of rescue work

30. (1) It shall be the duty of the manager of every mine to make rules allotting to competent persons the duties to be performed by them on any occasion on which rescue work is about to be or is being carried out at that mine.

(2) Such rules shall include provisions to ensure that on any such occasion, at any time when the manager is not himself performing those functions, a competent person is in charge on the surface to secure that—

- (a) no person enters any shaft or outlet for the purpose of going to a part of the mine affected, unless he is duly authorised so to do;
- (b) the name of every person going below ground or returning above ground at the mine is recorded in writing;
- (c) teams of rescue workers are organised and, where such a team is not a permanent rescue corps or a rescue brigade, a captain thereof is appointed;
- (d) suits of breathing apparatus are tested in accordance with paragraph (4) of regulation twenty-five; and
- (e) such other steps as can be taken on the surface to regulate and facilitate the rescue work are taken.

31. On any occasion on which rescue work is about to be or is being carried on in any mine, no person shall go below ground for the purpose of going to a part of the mine affected unless authorised so to do.

32. (1) On any occasion on which rescue work is about to be or is being carried on in any mine, no person shall be authorised to go below ground for any purpose which may involve the use of breathing apparatus unless he is a person for the time being qualified to be a member of a permanent rescue corps, a rescue worker to co-operate at a mine with such a corps or a member of a rescue brigade at a mine.

(2) On any such occasion no person shall be permitted to engage in a second or subsequent spell of work involving the use of breathing apparatus unless he has been medically examined since the preceding spell of work and is found fit to undertake it.

33. (1) On any occasion on which rescue work is to be carried out in a mine in an atmosphere which is or may be irrespirable, there shall be organised as soon as may be a base or bases (hereinafter referred to as a 'fresh air base') in respirable air but as near to the places in which the work has to be carried out as appears safe.

(2) Whenever any persons are engaged in rescue work beyond the fresh air base there shall, so far as is practicable, be stationed thereat—

- (a) two persons including a person competent to test and maintain breathing apparatus and other rescue equipment and a person holding a certificate of proficiency in first aid granted by a society or body approved* by the Minister for the purpose;
- (b) a team of rescue workers ready for immediate service and equipped with breathing apparatus; and

*See list of approved societies and bodies on page 279.

(c) a set of reviving apparatus, a stretcher and a cage of birds.

(3) Telephonic communication shall, if practicable, be established and maintained between any fresh air base and the surface of the mine or an entrance below ground to a shaft or outlet.

34. (1) On any occasion on which rescue work is to be carried out in a mine, no team of rescue workers shall go beyond a fresh air base, or where an appropriate fresh air base has not been established shall go below ground, unless the captain has been given clear instructions where the team is to go and what it is to attempt by the person in charge at the fresh air base or on the surface, as the case may be, and if breathing apparatus is to be used, has assured himself that that apparatus has been tested in accordance with paragraph (4) of regulation twenty-five.

(2) Unless the captain of such a team is personally familiar with the route to be taken, he shall not proceed without a plan of the relevant part of the mine made in pursuance of regulation twenty-eight and on which that route is clearly marked.

35. (1) It shall be the duty of the captain of any rescue team engaged in rescue work in any mine to devote himself to the direction of the team and to secure its safety, and accordingly he shall not engage in manual work.

(2) Without prejudice to the generality of the foregoing, the captain of a team so engaged shall examine the state of the roof and sides of any place to be entered or passed by the team and he shall not permit the team to pass any place which appears to him insecure or except where it is necessary so to do in an attempt to save life to pass through any passage less than two feet high and three feet wide.

(3) If visibility is obscured by smoke, the captain of a rescue team shall secure that a life-line is taken in from the fresh air base or another place at which the air is respirable and that no member of the team moves out of reach of that line or, if that is not practicable, shall ensure that any road branching from a route is fenced off before the junction is passed.

(4) If visibility is not obscured by smoke, the captain of a rescue team when passing any junction shall see that the route is clearly indicated by means of arrows or other suitable marks.

36. The captain of any rescue team which is to use breathing apparatus in the course of any rescue work at any mine shall make sure that each such apparatus is working properly immediately before the team enters an atmosphere which is or may be irrespirable and shall in the case of such apparatus in which compressed oxygen is used read the pressure of oxygen at intervals not exceeding twenty minutes.

37. On any occasion on which a fire is being dammed off, there shall be kept available at or near the place two suits of breathing apparatus and persons qualified to use them under regulation thirty-two or two smoke helmets and persons competent to use them.

PART V
Interpretation

38. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘fresh air base’ has the meaning assigned thereto in regulation thirty-three;

‘fully trained in rescue work’ has the meaning assigned thereto in regulation twenty;

‘mine’ has the meaning assigned thereto in regulation one.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

FIRST SCHEDULE

(Regulation 25)

Adjustment and testing of breathing apparatus

1. In the case of breathing apparatus by which a uniform delivery of oxygen is provided, the reducing valve shall be so adjusted as to deliver not less than two litres of oxygen per minute.

2. A competent person shall as respects every suit of breathing apparatus at intervals not exceeding thirty days—

- (a) thoroughly examine its general condition giving particular attention to any delicate or perishable part thereof;
- (b) test it for leakage by complete immersion in water (other than of any liquid air pack which would thus be damaged) when fully distended under pressure and examine it closely for leakage;
- (c) measure the pressure at which any automatic relief valve discharges;
- (d) in the case of apparatus in which compressed oxygen is used, measure the pressure in the oxygen cylinder thereof; and
- (e) in the case of such apparatus, measure by a flow meter the rate of delivery of oxygen and, in a case in which that rate can be adjusted by the wearer, measure that rate over the whole range of the adjustment.

3. No flow meter shall be used for the purposes of any test under the last preceding paragraph unless it has been tested for accuracy within the preceding six months.

4. No suit of breathing apparatus from which any leakage is found shall be deemed safe.

5. There shall be kept at every central rescue station, and at any mine at which any breathing apparatus is kept in pursuance of an exemption given by an inspector, a record of all tests carried out in pursuance of this schedule.

SECOND SCHEDULE

(Regulation 26)

Code of Signals

Electric Signalling	Signal	Signalling between Members of a Brigade	Signal
'Distress' or 'Help wanted' .	ONE ring	'Distress' or 'Help wanted' .	ONE hoot
(If NO ANSWER is given to a call, 'Distress' is to be understood)			
'Not understood' or 'Repeat the Message'	TWO rings	Halt	TWO hoots
'No'	THREE rings	Retire	THREE hoots
'Yes' or 'All right' or 'All's well'	FOUR rings	Advance	FOUR hoots
To 'ring up,' To 'ring off' .	FIVE rings	To call attention	FIVE hoots

THIRD SCHEDULE

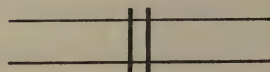
(Regulation 28)

Code of Signs

Brick, stone or concrete stoppings, constructed in the manner described in regulation 21 (2) of the Coal and Other Mines (Ventilation) Regulations, 1956



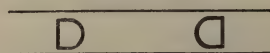
Brick, stone or concrete stoppings, other than the above



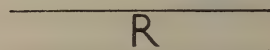
Fire dams or seals



Doors



Regulators



Air crossings, explosion proof



THIRD SCHEDULE

(Regulation 28) *Code of Signs—continued*

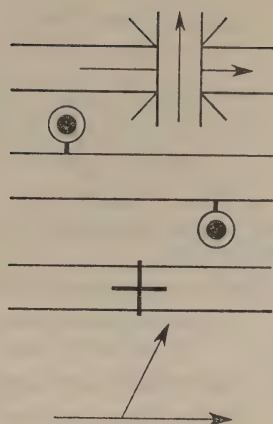
Air crossings other than the above

Telephones

Underground ambulance station (in red)

Direction of air current

Intake airways—Blue. Return airways—Red.



(b) APPROVED SCHEMES FOR INSTRUCTION AND PRACTICES IN RESCUE WORK

By an approval dated 31st December, 1956, the Minister in pursuance of Regulations 20 and 21 (b) approved the schemes of instruction and practice in rescue work detailed below:

Course of Initial Instruction and Practice (Regulation 20)

The course of instruction and practices shall be as follows:

(a) Instruction as to—

- (i) the general methods of dealing with underground fires and the recovery of mines after fires and explosions;
- (ii) the construction, use, repair, maintenance and testing of the type or types provided of breathing apparatus and of smoke helmets or other apparatus serving the same purpose;
- (iii) the use of methods and apparatus for reviving men;
- (iv) the properties and detection of the noxious and inflammable gases which may be found in mines;
- (v) the taking of gas samples in irrespirable atmospheres;
- (vi) the reading of mine plans;
- (vii) the conduct of rescue work detailed in the said regulations and the code of signals contained in the second schedule to the said regulations.

(b) Practices—

Not less than 12 practices for each man with breathing apparatus and in addition not less than two for each man with smoke helmets or other apparatus serving the same purpose, in each case under conditions so devised as to represent those likely to be encountered in underground operations requiring the use of such apparatus.

The practices shall be carried out as follows :

- (i) Rescue Brigades—as far as possible by each brigade as such, i.e., by all members of the brigade, at one and the same time.
- (ii) Permanent Rescue Corps—by at least five members at one and the same time.
- (iii) Men from Mines to act with Permanent Rescue Corps. Not more than eight men nor less than five men shall take part in any practice, but if five men do not attend on any occasion the number may be made up by members of the permanent rescue corps. So far as practicable the same five men shall practice together as one brigade.
- (c) The practices with breathing apparatus shall take place in ordinary air and shall progress gradually until practices can be carried out in a hot and irrespirable atmosphere.
- (d) The practices with breathing apparatus shall comprise the following operations :
 - (i) the repeated raising and lowering of a weight of 56lb. to and from a height of six feet by means of a rope and pulley;
 - (ii) walking continuously at a fair pace for half-an-hour;
 - (iii) building and removing temporary stoppings of stone, brick, sandbags, brattice cloth or other materials, and carrying the materials required for such operations over a distance of at least ten yards;
 - (iv) removing debris in confined spaces as representing the clearing of a fall of roof;
 - (v) setting timber or other roof supports;
 - (vi) carrying, pushing or pulling on a stretcher a live person or dummy body weighing 150lb. along the length of a gallery, and through an opening two feet high by three feet wide and four yards along;
 - (vii) the rapid establishment of communication.

All practices required by this part of this schedule shall last at least two hours except on occasion when, in the opinion of the instructor, it is desirable in the interests of safety to curtail the practice. At some of the practices the breathing apparatus shall be worn continuously for two hours.

Further Instruction and practice after initial training (Regulation 21 (b))

(a) Instruction

Revision of all subjects included in the course of instruction and practice specified in Part I of this Schedule.

(b) Practices

- (i) Rescue Brigades and Men from Mines to act with Permanent Rescue Corps—Practices with breathing apparatus at least one in each quarter and at least six in each year, of which at least two shall take place in mines, and the remainder in a hot and irrespirable atmosphere.
- (ii) Permanent Rescue Corps.—In addition to regular practices at the Central Rescue Station, practices with breathing apparatus underground in a mine at least one in each quarter and at least six in each year. Members who are not employed regularly underground in mines shall have six further practices underground in mines each year, making 12 practices in all.

Where possible mine practices shall include work in low and constricted roadways.

All practices required by this part of this schedule shall last at least two hours except on occasion when, in the opinion of the instructor, it is desirable in the interests of safety to curtail the practice. At some of the practices the breathing apparatus shall be worn continuously for two hours.

12. D U S T

(a) THE COAL MINES (PRECAUTIONS AGAINST INFLAMMABLE DUST) REGULATIONS, 1956

By the Coal Mines (Precautions against Inflammable Dust) Order, 1956 (S.I. 1956, No. 1769), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal Mines (Precautions against Inflammable Dust) Regulations, 1956.

The order provides that any exemption, permission, approval, authority or direction given for the purposes of a provision specified below shall, if in force at the commencement of the Act and so far as it could have been given for the purposes of these regulations, have effect as if it had been so given:

Coal Mines Act, 1911, Section 62.

Coal Mines General Regulations (Precautions against Coal Dust), 1939 (S. R. & O. 1939, No. 1083).

PART I

Precautions as regards screens

1. This Part of these regulations shall apply at every mine in which coal is worked other than a mine in which the floor, roof and sides of the roads are naturally wet throughout.

2. It shall be the duty of the manager of every mine to make and ensure the efficient carrying out of arrangements to secure that the entry of coal dust from screens into any downcast shaft is minimised.

3. At any such mine newly opened after the sixteenth day of December, nineteen hundred and eleven, no plant shall be used for screening or sorting coal within a distance of two hundred and forty feet from any downcast shaft:

Provided that an inspector may by notice served on the manager exempt a mine from the provisions of this regulation.

PART II

Maintenance of incombustible matter in dust in roads

4. This Part of these regulations shall apply, at every mine in which coal is worked, to every length of road therein other than—

(a) a length of road used only in connection with the working of anthracite;

or

(b) a length of road which is within thirty feet of a coal face or which is a shoot from the coal face down which coal is thrown.

5. (1) It shall be the duty of the manager of every mine to make and ensure the efficient carrying out of arrangements to secure that, as respects every length of road to which this Part of these regulations applies and which is required to be ventilated, any dust on the floor, roof or sides thereof which can be raised into the air shall contain not less than the minimum percentage of incombustible matter determined in accordance with the schedule to these regulations in relation to coal in connection with the working of which that length of road is used.

(2) For the purposes of these regulations the incombustible matter in any dust includes moisture contained therein.

6. No incombustible dust shall be used for the purposes of these regulations unless in tests carried out at intervals not exceeding ninety days it is found to comply with the following requirements, that is to say—

- (a) it is of such fineness that of the dry dust which passes through a 60-mesh sieve of a specification approved* by the Minister not less than fifty per cent. by weight and not more than seventy-five per cent. by weight, or such larger percentage as may be authorised by an inspector by notice served on the manager, shall pass through a 240-mesh sieve of a specification so approved,* and
- (b) it is of such character that it is readily dispersable into the air and, if in use in places where it is not directly wetted by water from the strata, it does not cake but is dispersed into the air when blown upon by the mouth or by a suitable appliance.

7. (1) For the purpose of establishing the efficacy of his arrangements made in pursuance of regulation five it shall be the duty of the manager of the mine to ensure that at intervals not exceeding thirty days a sufficient number of samples of the dust on every length of road to which that regulation applies are systematically collected and analysed.

(2) In the case of any such length of road which is used for the transport of coal or which is within six hundred feet of a working face and is used as a return airway in respect of that face, the number of samples so collected and analysed shall not be less than in the proportion of ten per mile:

Provided that an inspector may by notice served on the manager permit the taking and analysis of a lesser number of samples in any such length of road.

(3) If in the case of any length of road every analysis of a sample taken within the preceding six months indicates that the natural conditions of the road are such that the requisite percentage of incombustible matter is maintained without the application of incombustible dust or if, in the case of a length of road to which the last preceding paragraph does not apply, every such analysis indicates that the application of incombustible dust is not necessary at intervals of less than six months, it shall be sufficient for samples to be collected and analysed at intervals not exceeding ninety days or at such longer intervals as may be authorised by an inspector by notice served on the manager:

Provided that if there is any change in the natural conditions or in the method of working which affects or may affect substantially the percentage of incombustible matter in any such length of road, samples shall be taken and analysed as soon as any effect of the change would be apparent.

(4) The manager shall ensure the result of every analysis required to be made by this regulation is within twenty-one days of the collection of the sample entered in a book† provided by the owner of the mine for the purpose. Except at a mine at which less than one hundred persons are employed below ground,

*The sieves approved for this purpose are the 60-mesh and 240-mesh sieves made to the specification in British Standard Specification for Test Sieves, No. 410, dated April, 1931.

†M. & Q. Form No. 207 (41).

entries in that book relating to each length of road shall be distinguished by colour, number, letter or mark which shall be identified with that length of road by means of a suitable plan preserved with that book.

(5) The manager shall ensure that a notice specifying the result of every analysis required to be made by this regulation is kept in the covered accommodation provided in pursuance of section one hundred and thirty-five of the Act for a period of thirty days commencing when that result is entered in the book in pursuance of the last preceding paragraph.

8. (1) When any sample is collected to ascertain the percentage of incombustible matter in any dust in any road for the purposes of these regulations it shall (subject to the following provisions of this regulation) be collected—

- (a) over a length of road not less than one hundred and fifty feet in length;
- (b) in the case of dust on the roof or sides, to a depth not exceeding a quarter of an inch or, in the case of dust on the floor, to a depth not exceeding one inch; and
- (c) in the manner specified in paragraph (5) of this regulation.

(2) If since samples were last collected from any length of road in pursuance of regulation seven some part of it has been treated with incombustible dust more frequently or more recently than other parts, separate samples shall for the purposes of that regulation be collected from those parts respectively irrespective of their lengths.

(3) Samples of the dust on the roof and sides of any length of road shall be taken together in the case of a length of road supported by steel arches and in the case of any other length of road unless there is in force a direction given by an inspector by notice served on the manager that samples of the dust on the roof and sides of that length of road are to be taken separately.

(4) If in the case of any length of road the dust on the floor is systematically treated in a manner approved* by the Minister so as to consolidate it and render it indispersable, samples of the dust on that floor shall be taken to a depth of a quarter of an inch, as nearly as may be, and be taken together with dust from the roof and sides of that length of road unless there is in force a direction to the contrary given by an inspector by notice served on the manager.

(5) Every sample shall be so taken as to be representative of the whole surface of the floor, roof or sides, roof and sides or all of them, as the case may be, of the length of road in question and shall be collected—

- (a) by a method of strip sampling by which the dust is collected from a succession of transverse strips as nearly as may be of equal width and equally spaced, not more than fifteen feet apart and of an aggregate area not less than one per cent. of the total area sampled; or
- (b) by a method of spot sampling by which it is collected from one point for each three feet of that length of road.

9. When any sample of dust is to be analysed for the purposes of these regulations it shall be well mixed and a representative portion which is passed through a 60-mesh sieve of a specification approved† by the Minister shall be analysed by a method so approved.‡

*See page 243.

†The sieve approved for this purpose is the 60-mesh sieve made to the specification in British Standard Specification for Test Sieves, No. 410, dated April, 1931.

‡See page 244.

PART III

General

Precautions as regards vehicles containing coal dust

10. It shall be the duty of the manager of every mine to ensure that no vehicle is used therein for the transport of material consisting wholly or mainly of coal dust (not being anthracite dust) along any length of road in which there is any electric cable or apparatus unless such steps are taken to enclose the material as would prevent the dust being thrown into the air if the vehicle were upset.

11. The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

SCHEDULE

Minimum percentage of incombustible matter

1. For the purposes of regulation five of the minimum percentage of incombustible matter in relation to any coal shall be determined by reference to the volatile matter content of that coal calculated on an ash-free dry basis in accordance with the following table:

Volatile matter content of coal (Per cent.)	Minimum percentage of incombustible matter required
Not exceeding	
20	50
22	55
25	60
27	65
30	68
32	70
35	72
Exceeding	
35	75

2. For the purposes of this schedule the volatile matter content of any coal shall be deemed to be that determined by analysis of a representative section of the seam or of a representative sample of run-of-mine coal from the seam taken within the preceding twelve months or where no such determination has been made shall be deemed to exceed thirty-five per cent.

3. Where any road is used in connection with the working of coal from more than one seam the volatile matter content of the coal shall be deemed to exceed thirty-five per cent. unless such a determination has been made in respect of each seam and in the excepted case shall be deemed to be the highest percentage so determined.

4. No account shall be taken for the purposes of this schedule of any analysis of a representative sample of coal unless forthwith after the making thereof notice containing particulars thereof was served on the inspector for the district.

5. Where in the seam or seams of coal in connection with the working of which any road is used inflammable gas is unknown and no explosive, which is not permitted explosive and sheathed explosive within the meaning assigned to those terms by the Coal Mines (Explosives) Regulations, 1956,* is used in that road,

*See pages 187 and 208.

the minimum percentage of incombustible matter required shall not exceed sixty per cent. in a case in which the road is treated with incombustible dust or fifty per cent. in a case in which it is not so treated.

(b) APPROVED MANNER OF CONSOLIDATING DUST ON THE FLOOR OF A ROAD AND RENDERING IT INDISPERSABLE

The method of treatment with calcium chloride described below* is approved, for the purpose of Regulation 8 (4) of the Coal Mines (Precautions against Inflammable Dust) Regulations, 1956, as a manner of consolidating the dust on the floor of a road and rendering it indispersable:

1. *Preparation*

Preparation shall consist of the following processes undertaken in the order in which they are set out:

- (a) the road shall be cleaned and all loose material except dust removed from the floor;
- (b) stone dust shall be applied freely to the floor, roof and sides;
- (c) the floor dust shall be smoothed down;
- (d) if the layer of dust on the floor is in any place less than one inch deep, additional stone dust shall be applied in that place to make the dust on the floor one inch deep;
- (e) the floor dust shall be thoroughly and uniformly wetted to a depth of at least one inch by spraying over it a solution of a wetting agent, and afterwards water; so however that, if the dust in that sector of the road can be wetted as required by this sub-paragraph by spraying water only, no wetting agent need be used.

2. *Application*

Not less than one hour after preparation of a sector of the road has been completed, flaked calcium chloride shall be spread evenly over the floor of the sector with a shovel.

3. *Required condition after initial treatment*

The floor is required to have after treatment a uniform surface sufficiently plastic to take and retain, if trodden upon, sharp impressions of heel marks. If this condition is not achieved at the first application, additional calcium chloride shall be applied on the next and (if necessary) following days.

B. SUBSEQUENT TREATMENT

4. *Preparation*

Any deterioration in the required condition of the floor (as specified in paragraph 3) shall be remedied by preparing the sector of the road concerned, and applying calcium chloride, as provided in this and the following paragraph. Preparation shall consist of the following processes undertaken in the order in which they are set out:

- (a) all coal and other loose material shall be removed;
- (b) all fine coal and coal dust shall be swept out of the sector;
- (c) stone dust shall be applied freely to the roof and sides;
- (d) water shall be lightly sprayed over the floor.

*This method of treatment is described more fully in M.F.P. Safety Circular No. 164, dated October, 1948, published by H.M. Stationery Office, price 2d. net.

5. Application

Approximately one hour after preparation has been completed, flaked calcium chloride shall be spread evenly over the floor with a shovel.

(c) APPROVED METHODS OF ANALYSIS OF MINE DUST

The methods of analysis of mine dust described below are approved for the purposes of Regulation 9 of the Coal Mines (Precautions against Inflammable Dust) Regulations, 1956:

1. (a) *The High Temperature Incineration Method*

- (i) The residue of a weighed quantity of dust after that quantity of dust has been dried at a temperature not exceeding 140°C . and the weight loss attributable to moisture ascertained or (in any case where the percentage of incombustible matter, excluding moisture, is likely to exceed the minimum required by the said regulations) a weighed quantity of dust, shall be heated in an open vessel to a temperature of not less than 950°C . until it no longer loses weight. The incinerated residue shall be weighed.
- (ii) The sum of the weights of moisture and incinerated residue or, as the case may be, the weight of incinerated residue shall be reckoned as incombustible matter and be expressed as a percentage of the total weight of the dust.

If in any case where the dust contains carbonates a weighed quantity of that dust has been treated with dilute acid to ascertain the weight of carbon dioxide replaced, the weight of that carbon dioxide shall be reckoned as incombustible matter and shall be taken into account in expressing, in pursuance of sub-paragraph (a) (ii), the percentage of incombustible matter.

(b) *The Low Temperature Incineration Method*

- (i) The residue of a weighed quantity of dust after that quantity of dust has been dried at a temperature not exceeding 140°C . and weight loss attributable to moisture ascertained or (in any case where the percentage of incombustible matter, excluding moisture, is likely to exceed the minimum required by the said regulations) a weighed quantity of dust, shall be heated in an open vessel to a temperature of not less than 500°C . until the coal is completely burnt away. The incinerated residue shall be weighed.
- (ii) The sum of the weights of moisture and incinerated residue or, as the case may be, the weight of incinerated residue shall be reckoned as incombustible matter and be expressed as a percentage of the total weight of the dust.

2. Except where gypsum dust is used for stone dusting, the following method of analysis is prescribed for the purposes of paragraph (c) of Regulation 9 aforesaid in addition to any other prescribed method:

The Volumeter Method

The volume of solid matter in a weighed quantity of dust shall be ascertained by immersion in a fluid and the incombustible matter in the dust estimated by a comparison of the volume so ascertained with volumes of other similar dust containing known proportions of incombustible matter.

3. Where limestone dust or dust of similar colour is used for stone dusting, the following method of analysis is prescribed for the purposes of paragraph (c) of Regulation 9 aforesaid, in addition to any other prescribed method:

The Colorimeter Method

The colour of a sample of dust shall be compared with that of a representative sample of similar dust known to contain 80 per cent. or a higher percentage of incombustible matter and if, on such a comparison, the colour of the sample is found to be lighter than that of the representative sample, the incombustible matter in the dust shall be taken to exceed 80 per cent. or, as the case may be, the higher percentage of the total weight of the dust.

Moisture Correction

4. If it is necessary for a dust sample to be air dried before being sieved through a 60-mesh sieve in accordance with paragraph (c) of Regulation 9 aforesaid, a correction may be made to the incombustible matter content of the dust determined by method 1 (a), 1 (b) or 2. The corrected total incombustible content of the dust is equal to $M + \frac{I(100 - M)}{100}$ where M is the percentage loss of weight during the air drying, and I is the percentage of total incombustible matter in the dust as determined by method 1 (a), 1 (b) or 2.

13. THE COAL AND OTHER MINES (PRECAUTIONS AGAINST INRUSHES) REGULATIONS, 1956

By the Coal and Other Mines (Precautions against Inrushes) Order, 1956 (S.I. 1956, No. 1770), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of Section 68 of the Coal Mines Act, 1911, and of the Coal Mines (Shallow Workings and Dangerous Deposits) General Regulations, 1952*) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Precautions against Inrushes) Regulations, 1956.

1. These regulations shall apply to every mine of coal . . . , and in these regulations 'mine' means such a mine.

2. (1) Without prejudice to the generality of section seventy-five of the Act, no working which is approaching and within one hundred and fifty feet of the surface shall be carried on in any mine, unless the manager has sufficient information about the nature of the material between the working and the surface to determine whether it may cause danger to persons working in the mine:

Provided that this paragraph shall not apply where there is another working or a disused working vertically above the working in question at a distance not less than thirty feet or five times the thickness of the seam to be worked whichever is the greater.

(2) No working shall be carried on at any place in any mine if there is evidence that within one hundred and fifty feet thereof there may be any peat, moss, sand, gravel, silt or other material that is likely to flow when wet, unless the manager of the mine has sufficient information to determine the nature, position, thickness and extent thereof.

*S.I. 1952, No. 1847.

(3) No working shall be carried on at any place in any mine if there is evidence that within one hundred and fifty feet thereof there may be any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities) unless the manager of the mine has sufficient information about the nature or position thereof to determine that it is not dangerous to persons working in the mine or sufficient information about the nature, position, thickness and extent thereof to determine whether it may cause danger to such persons.

3. Without prejudice to the generality of section seventy-seven of the Act, no working which—

- (a) is approaching and within one hundred and fifty feet of the surface; or
- (b) is within one hundred and fifty feet of any peat, moss, sand, gravel, silt or other material that is likely to flow when wet; or
- (c) is within one hundred and fifty feet of any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities) not being rock or stratum which by reason of its nature or position is not dangerous;

shall exceed ten feet in width, unless the manager has given to the inspector for the district notice of his intention to work to a greater width and the inspector has within thirty days, by notice served on the manager, consented to that working exceeding ten feet in width.

4. Without prejudice to the generality of section seventy-seven of the Act, no working which is approaching and within one hundred and twenty feet of any place containing or likely to contain an accumulation of water or material that flows when wet or of any disused workings, not being workings which have been examined and found to be free from accumulations of water or material that flows when wet, shall exceed eight feet in width, and in respect of any such working the manager shall ensure that boreholes are at all times maintained in advance near the centre of the working of a length not less than fifteen feet and on each flank at intervals not exceeding fifteen feet.

5. The manager of every mine shall ensure that no person carries out any work, other than work necessary for the preservation of the mine or for the sinking of a shaft or the driving of an outlet from the surface, in any working in the mine within sixty feet or ten times the height of the working (whichever is the greater) of—

- (a) any peat, moss, sand, gravel, silt or other material that is likely to flow when wet; or
- (b) any rock or stratum containing or likely to contain water (whether dispersed or in natural cavities) not being rock or stratum which by reason of its natural position is not dangerous;

except in accordance with special regulations applicable to that mine.

6. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘mine’ has the meaning assigned thereto in regulation one.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

14. THE COAL AND OTHER MINES (LOCOMOTIVES) REGULATIONS, 1956

By the Coal and Other Mines (Locomotives) Order, 1956 (S.I. 1956, No. 1771), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Locomotives) Regulations, 1956.

The order provides that any exemption, consent, approval or requirement granted or imposed for the purpose of the Coal Mines (Locomotives) General Regulations, 1949 (S.I. 1949, No. 530) shall, if in force at the commencement of the Act and so far as it could have been granted or imposed for the purposes of these regulations, have effect as if it had been so granted or imposed.

PART I

*Application**

1. Except where the application thereof is further expressly limited, these regulations shall apply below ground in every mine of coal . . . , and in these regulations, except as aforesaid, 'mine' means such a mine.

PART II

Design, construction and equipment of locomotives

2. The manager of every mine shall ensure that no locomotive runs in that mine unless it complies with the requirements of this Part of these regulations.

3. (1) Every locomotive and each of its accessories shall, so far as practicable, be constructed of non-inflammable material, and any inflammable material included therein shall be shrouded with a substantial metallic covering:

Provided that an inspector may by notice served on the manager of any mine consent to the running in that mine of a locomotive in which inflammable material is not so shrouded.

(2) In the case of every locomotive in which the motive power is generated by an internal combustion engine, that locomotive shall be so constructed that—

- (a) no air enters the engine without first being cleaned;
- (b) no exhaust gases are expelled from the locomotive without first being cooled and diluted; and
- (c) no flames or sparks are emitted from the locomotive.

(3) Every locomotive which runs in a mine or part of a mine in which the use of lamps or lights, other than permitted lights, is unlawful shall be of a type approved by the Minister:

Provided that the provisions of this paragraph shall not apply to a locomotive which runs only in lengths of road not ventilated by air that has ventilated any working face and which does not run to any place in such a length of road within nine hundred feet of a working face accessible from that length of road.

*The application of these Regulations as regards locomotives is, by the definition in Regulation 36 (1), limited to 'mechanically propelled vehicles running on rails and constructed or used for moving other vehicles'.

4. In the case of every locomotive in which the motive power is generated by an electric motor supplied with electricity by a storage battery (in these regulations referred to as a 'storage battery locomotive') that part of the locomotive in which the battery is carried shall be so constructed as to be capable of resisting rough usage and adequately ventilated.

5. (1) Every locomotive shall be provided with—

- (a) brakes which can (whether or not any other device for applying them is fitted) be applied by the driver by direct mechanical action;
- (b) means for applying sand to the rails;
- (c) means for giving adequate audible warnings;
- (d) a suitable portable fire extinguisher;
- (e) a seat for the driver;
- (f) controls so placed that the driver can simultaneously operate them and see ahead without leaning out of the locomotive; and
- (g) a portable lamp.

(2) Every locomotive, other than a locomotive which cannot develop more than twenty-five horse power and cannot on a level road exceed a speed of eight miles per hour, shall be provided with a combined speed and mileage indicator so placed as to be easily seen by the driver when he is operating the locomotive:

Provided that the provisions of this paragraph shall not apply to a locomotive which was in use in a mine before the first day of May, nineteen hundred and forty-nine and which has not been provided with such an indicator before the commencement of the Act.

(3) Every locomotive shall be provided with a headlight with an effective range of at least two hundred feet or, in the case of a locomotive which was in use in a mine before the first day of May, nineteen hundred and forty-nine, if an inspector by notice served on the manager of the mine consents thereto, such a headlight as that with which it was equipped at that date.

PART III

Roads and tracks

Construction of tracks

6. (1) Subject to the provisions of regulation eight the manager of every mine in which any locomotive runs shall ensure that no locomotive runs in any length of road otherwise than on a track of rails being a track—

- (a) which is ballasted and where necessary drained;
- (b) having rails of a weight per yard of rail not less than that specified in paragraph (2) of this regulation;
- (c) so constructed that the distance between the centres of any adjacent sleepers does not exceed—
 - (i) in a length of road in a mine of stratified ironstone or shale in which no locomotive exceeding three and one half tons in weight runs, three feet;
 - (ii) in any other length of road, two feet nine inches;

- (d) having every rail joint secured by suitable fishplates with at least four bolts; and
 - (e) so constructed that every curve thereon is sufficiently gradual to enable any locomotive which runs thereon to do so in safety and has where necessary a raised outer rail or check rail or both of them.
- (2) The minimum weight per yard of rail shall be—
- (a) in the case of rail . . . on which no locomotive exceeding five tons in weight runs, and which is used only for the carrying of loads other than persons or minerals, twenty-eight pounds;
 - (b) . . . ;
 - (c) in the case of any other rail, forty pounds or, if the weight calculated as follows be greater, ten pounds with an addition of five pounds for each ton of the greatest weight on one pair of wheels of the heaviest locomotive which runs thereon.
- (3) The manager of every mine in which any locomotive runs shall ensure that no locomotive runs and no vehicle is drawn by a locomotive at any place at which it may pass another locomotive or vehicle on an adjacent track unless those tracks are so laid that taking into account any swing of either locomotive or vehicle there is a clearance not less than one foot between any parts of them.

Minimum clearances

7. (1) Subject to the provisions of regulation eight the manager of every mine in which any locomotive runs shall ensure that no locomotive runs in any length of road therein which is not throughout of such height and width as to comply with the following provisions of this regulation taking into account any swing of the locomotive.

(2) The height of any such length of road shall be such that—

- (a) in the case of a locomotive with a covered cab, there is as regards any part of the locomotive a vertical clearance not less than one foot, or
- (b) . . . ; or
- (c) in the case of any other locomotive, the driver can stand upright on any part of the floor of the cab.

(3) The width of any such length of road shall be such that as regards any part of a locomotive there is a horizontal clearance not less than two feet:

Provided that, at a side on which refuge holes are not provided of a length of road in which there are not more than two tracks of rails, a horizontal clearance exceeding one foot shall not be required.

Exemptions

8. An inspector, if he is satisfied that the application of any provision of either of the two last preceding regulations is not requisite for safety in relation to any mine or part thereof, may by notice served on the manager of that mine exempt it or a part thereof from that provision.

Gradients

9. The manager of every mine shall ensure that no locomotive runs therein on a gradient exceeding 1 : 15.

Inspections of rails and track

10. (1) Without prejudice to the provisions of the Coal and Other Mines (Managers and Officials) Regulations, 1956,* with regard to the functions of deputies in districts assigned to them and with regard to the inspection of places outside deputies' districts, the manager of every mine in which any locomotive runs shall secure that a competent person (who may be the deputy or person assigned to make such inspection) is appointed by him to be in charge of every length of road in which a locomotive runs.

(2) At intervals not exceeding twenty-four hours the person for the time being in charge of any such length of road shall inspect or supervise the inspection of that length to ascertain the condition thereof as regards—

(a) the state of the track and its freedom from obstructions, and

(b) the maintenance of the requisite height and width of the road,

and upon the completion of such an inspection shall forthwith record and sign a full and accurate report thereof in a book† provided by the owner of the mine for the purpose.

PART IV

Ventilation

Determinations of firedamp content

11. Without prejudice to the provisions of the Coal and Other Mines (Ventilation) Regulations, 1956,‡ where a locomotive runs in any length of road in which the use of lamps or lights, other than permitted lights, is unlawful, the manager shall make and secure the efficient carrying out of arrangements whereby determinations of the percentage of inflammable gas present in the general body of the air (in these regulations referred to as 'the firedamp content') are made in that length of road in accordance with the provisions of the three next following regulations:

Provided that an inspector, if he is satisfied that the normal firedamp content in any length of road is not such as to make regular determinations necessary, may by notice served on the manager exempt that length from the application of any provision in this Part of these regulations.

Methods for determinations

12. Determinations of the firedamp content shall be made—

(a) by means of apparatus of a type approved for the purpose by the Minister, by a competent person appointed for that purpose by the manager of the mine; or

(b) by means of samples of air taken by a competent person so appointed and analysed within four days (without taking into account any Saturday, Sunday or day of general holiday) of the taking thereof.

Places for determinations

13. (1) Determinations of the firedamp content shall be made—

(a) at a point at each end of every length of road in which any locomotive runs;

*See page 107.

†M. & Q. Form No. 269 (144).

‡See page 159.

(b) at such other suitable points as may be fixed by the manager :

Provided that paragraph (a) shall not require any determination to be made in a length of intake airway which begins at a shaft or outlet at any place more than nine hundred feet from any working face ventilated by that airway.

(2) An inspector may, if he is of opinion that any point fixed in pursuance of sub-paragraph (b) of paragraph (1) of this regulation is unsuitable, serve on the manager a notice requiring him to fix some other point in substitution therefor and may serve on the manager a notice requiring determinations to be made at any other point specified in the notice in addition to those required by the preceding paragraph.

Times for determinations

14. (1) Determinations of the firedamp content shall be made at every point required by or under the last preceding regulation once in every week at the time when the firedamp content is likely to be greatest :

Provided that—

(a) if any determination at any such point shows a firedamp content exceeding 0·8 per cent. by volume determinations shall be made at that point at intervals not exceeding twenty-four hours so long as the content is shown to exceed or to have exceeded that percentage and for the seven next following working days;

(b) if every determination made during a period of thirty days at any such point showed a firedamp content not exceeding—

(i) in the case of a point in a length of road not ventilated by air which has ventilated a working face, 0·2 per cent. by volume;

(ii) in the case of a point in any other length of road, 0·6 per cent. by volume;

it shall be sufficient to make determinations at that point at intervals not exceeding thirty days for so long as the firedamp content shown thereby does not exceed that percentage.

(2) Notwithstanding anything in the last preceding paragraph, whenever any alteration is made in the arrangements for ventilating a mine which affects or may affect substantially any length of road in which determinations of the firedamp content are required by or under this Part of these regulations to be made, a determination of the firedamp content at each point in that length shall be made as soon as any substantial effect of the alteration would be apparent.

(3) Where a determination of the firedamp content made for the purposes of these regulations is made by means of a sample of air, it shall be deemed to be made at the time and place at which the sample is taken.

Records of determinations

15. Particulars of every determination of firedamp content made in accordance with this Part of these regulations shall be recorded forthwith in a book* provided for that purpose by the owner of the mine.

*M. & Q. Form No. 270 (145).

16. (1) If any determination of firedamp content made in any length of road (not being a determination made by analysis of a sample of air) shows a firedamp content exceeding one and one quarter per cent. by volume, or any indication of inflammable gas is seen on the lowered flame of a safety-lamp in the general body of the air, the person making that determination or the person using the lamp (as the case may be) shall forthwith inform the person in charge of the part of the mine which includes that length of road and that latter person shall after forthwith verifying the accuracy of the information so given to him forthwith discontinue the running of any locomotive in that length of road.

(2) After such discontinuance no locomotive shall be run in that length of road until the manager of the mine, being satisfied that the firedamp content therein does not exceed one and one quarter per cent. by volume, so directs.

(3) If any determination of firedamp content made in any length of road by analysis of a sample of air shows a firedamp content exceeding one and one quarter per cent. by volume, the manager of the mine shall forthwith upon receipt of that information ensure that no locomotive runs in that length of road until he is satisfied that the firedamp content therein does not exceed one and one quarter per cent. by volume.

(4) The manager shall forthwith give to the inspector for the district notice of any discontinuance of the running of a locomotive in pursuance of this regulation.

PART V

Working and maintenance of locomotives

Drivers of locomotives

17. (1) No person shall operate any locomotive in any mine other than a person appointed by the manager of the mine to be a driver of that locomotive or of that type of locomotive (hereinafter referred to as 'an appointed driver') or a person so doing in the course of his duty in connection with the maintenance, repair or testing of that locomotive, and no appointed driver shall operate a locomotive hauling persons in vehicles unless he has attained the age of . . . twenty-one years.

(2) A manager shall not appoint any person to be an appointed driver unless that person is the holder of a certificate that he is competent without supervision to operate a locomotive of the type in question given by a person responsible for his training in such operation.

(3) The manager shall supply to every appointed driver a copy or summary of so much of the transport rules* of the mine as affect the discharge of his duties.

18. No person for the time being operating a locomotive in a mine shall leave that locomotive unattended, otherwise than at the place where it is normally kept when not in use, unless he has ensured that it cannot be set in motion by any person prohibited by these regulations from operating it.

19. Except in accordance with the transport rules* of the mine, no person shall be on any locomotive in motion in the mine unless he is—

*See Section 37 of the Act, page 28.

(a) an appointed driver; or

(b) when the locomotive is being used in shunting operations, a person engaged in those operations; or

(c) a person engaged in maintaining, repairing or testing the locomotive.

20. Except during shunting operations no person shall couple next to any locomotive a vehicle containing any timber or other material of a length exceeding the length of the vehicle.

21. (1) . . . no person shall use a locomotive for moving any vehicle otherwise than by hauling from in front, except during shunting operations.

(2) . . .

(3) . . .

22. A red light visible at a distance of two hundred feet shall be attached—

(a) at the rear of the last vehicle of every train in a mine; and

(b) at the rear of every locomotive in a mine when it is not attached to a vehicle:

. . .

Maintenance of locomotives

23. (1) It shall be the duty of the manager of every mine in which a locomotive runs to make and secure the efficient carrying out of arrangements whereby every locomotive thereat is examined externally during every period of twenty-four hours during which the engine or motor has been run, by a competent person appointed by the manager for that purpose, and upon the completion of such an examination the person making it shall forthwith record and sign a full and accurate report thereof in a book* provided by the owner of the mine for the purpose.

(2) In relation to any locomotive in which the motive power is generated by an internal combustion engine, it shall be the duty of the manager to make and secure the efficient carrying out of arrangements whereby any protective device fitted to any exhaust opening of the engine is thoroughly cleaned, or a clean device is substituted, whenever necessary and in any event during every period of twenty-four hours during which the engine has been run or such longer period as the Minister may by notice served on the manager approve in relation to any such locomotive.

24. (1) Without prejudice to the generality of regulations six and seven of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956,† it shall be the duty of the manager of every mine in which a locomotive runs to ensure that a scheme for the systematic examination of plant at that mine made in pursuance of the said regulation seven provides for the thorough examination and testing‡ at intervals not exceeding seven days of every locomotive thereat. In the course of such examination and testing steps shall be taken to ensure that all parts of the locomotive requiring to be cleaned are properly clean and the brakes shall be applied—

*M. & Q. Form No. 271 (142).

†See page 118.

‡Reports on these examinations and tests are required by No. 11 of the Mechanics and Electricians Regulations to be made on M. & Q. Forms Nos. 272 (143) and 273 (146).

(a) when the locomotive is in motion, by direct mechanical action and by any other means provided; and

(b) when the locomotive is stationary and the engine or motor is not running, by any means provided other than direct mechanical action and for a period of ten minutes.

(2) Such scheme shall provide also for the like examination and testing of the brakes forthwith after any repair or adjustment to the braking system of any locomotive.

PART VI

Additional provisions—diesel locomotives

Housing stations

25. (1) The manager of every mine in which there is any diesel locomotive shall make and secure the efficient carrying out of arrangements whereby that locomotive is, when not in use, kept in a place appointed for that purpose by him (in these regulations referred to as a 'housing station').

(2) The manager shall ensure that every housing station—

(a) is provided with not less than two means of egress;

(b) is ventilated by a current of air sufficient to dilute and render harmless all exhaust gases emitted by any engine running therein;

(c) is constructed of non-inflammable material;

(d) has a floor of smooth concrete;

(e) has an inspection pit or other suitable means for making inspections from below the locomotive; and

(f) is provided with suitable and sufficient apparatus for combating out-breaks of fire.

Filling stations

26. (1) No person shall replenish any diesel locomotive with fuel oil in any mine except at a place appointed for that purpose by the manager (in these regulations referred to as a 'filling station').

(2) The manager shall ensure that every filling station—

(a) is provided with not less than two means of egress;

(b) is ventilated by a current of air sufficient to dilute and render harmless all gases emitted therein;

(c) is constructed of non-inflammable material;

(d) has a floor of smooth concrete surrounded by a sill;

(e) is provided with suitable and sufficient apparatus for combating out-breaks of fire; and

(f) is so equipped that the spilling of oil is minimised.

(3) Any person spilling oil in a filling station shall—

(a) forthwith wipe it up or cause it to be wiped up with a non-inflammable absorbent;

(b) forthwith thereafter deposit that absorbent, or cause it to be deposited, in a fireproof receptacle; and

(c) as soon as practicable take that absorbent, or cause it to be taken, to the surface.

(4) No person shall take any oil from any container in a filling station while any internal combustion engine in the filling station is running.

(5) In a mine or part of a mine which is not a safety-lamp mine or safety-lamp part of a mine, no person shall, in, or within ten yards of, any filling station, smoke or use any lamp or light other than a locked safety-lamp or an electric lamp adequately protected:

. . .

Fuel oil

27. The manager of every mine in which any diesel locomotive runs shall make and secure the efficient carrying out of arrangements whereby—

(a) no fuel oil is used for the generation of energy in that locomotive other than oil of a specification* approved by the Minister;

(b) no oil for use as aforesaid is taken below ground otherwise than in a suitable container which does not leak; and

(c) any such oil at any time stored below ground (otherwise than in the tanks of a locomotive)—

(i) is kept in a filling station in a suitable container which does not leak; and

(ii) does not exceed in quantity, such quantity as, together with any oil then in the tanks of locomotives for which it has been brought below ground, is likely to be consumed by those locomotives (having regard to their normal user) within the period of forty-eight hours next following.

Posting of notices in filling stations

28. The manager of every mine in which any diesel locomotive runs shall ensure that a notice is kept posted in every filling station in such characters and in such a position as to be easily seen and read by the persons resorting thereto, being a notice specifying the requirements and prohibitions of paragraphs (1), (3), (4) and (5) (if applicable) of regulation twenty-six.

Exhaust gases

29. The manager of every mine in which any diesel locomotive runs shall ensure that no such locomotive runs therein if—

(a) in the case of a locomotive in a mine of stratified ironstone or of shale, being a locomotive which was in use before the first day of May, nineteen hundred and forty-nine or was required to be delivered under a contract made before that date, gas emitted from its exhaust contains more than 0·4 per cent. by volume of carbon monoxide or 0·15 per cent. by volume of oxides of nitrogen; or

(b) in any other case, gas emitted from its exhaust contains more than 0·2 per cent. by volume of carbon monoxide or 0·1 per cent. by volume of oxides of nitrogen.

*The specification approved for this purpose is that for Class A fuels in British Standard Specification No. 209: 1947 (Fuels for Oil Engines).

30. (1) No person for the time being operating any diesel locomotive in a mine shall keep the engine running when that locomotive is stationary except—

(a) during brief halts while the locomotive is in use; or

(b) while the locomotive is being tested.

(2) If at any place in a mine in which a diesel locomotive runs there is found in the general body of the air an amount of carbon monoxide exceeding 0.005 per cent. by volume, the manager shall forthwith take such steps as are necessary so to improve the ventilation at that place that that percentage of carbon monoxide is not exceeded.

(3) If at any place in a mine in which a diesel locomotive runs there is found in the general body of the air an amount of carbon monoxide exceeding 0.01 per cent. by volume, the manager shall ensure that no engine of a diesel locomotive is run at that place or at any other place at which such running could affect the ventilation at the first mentioned place until it has been determined that the amount of carbon monoxide in the general body of the air at the first mentioned place does not exceed 0.005 per cent. by volume.

31. (1) The manager of every mine in which any diesel locomotive runs shall make and secure the efficient carrying out of arrangements whereby samples are taken by a competent person appointed for that purpose by him and analysed in accordance with the following provisions of this regulation.

(2) At intervals not exceeding ninety days separate samples of the gas emitted from the exhaust of every diesel locomotive in use in the mine shall be taken when the engine of the locomotive is—

(a) developing maximum power; and

(b) idling with the locomotive stationary.

(3) At intervals not exceeding thirty days separate samples of the general body of the air shall be taken at places and times appointed by the manager so as to secure the detection of any harmful concentration of carbon monoxide produced by any diesel locomotive. An inspector may by notice served on the manager require him to appoint any place specified in the notice either instead of or in addition to any place already appointed by the manager.

(4) Every sample taken in pursuance of paragraph (2) of this regulation shall within four days of the taking thereof be analysed to determine the percentages of carbon monoxide and oxides of nitrogen therein and every sample taken in pursuance of paragraph (3) of this regulation shall within that period be analysed to determine the percentage of carbon monoxide therein and particulars of each such analysis shall be recorded forthwith in a book* provided for that purpose by the owner of the mine. In reckoning a period of four days for the purposes of this paragraph no account shall be taken of any Saturday, Sunday or day of general holiday.

PART VII

Additional provisions—storage battery locomotives

Charging and changing of batteries

32. (1) No person shall charge or change any battery of a storage battery locomotive in any mine except at a place appointed for that purpose by the manager.

*M. & Q. Form No. 274 (147).

(2) The manager shall ensure that every place so appointed for charging batteries (in these regulations referred to as a 'charging station') is so arranged in relation to the ventilation that—

(a) the charging apparatus is on the intake side of the battery racks; and

(b) the air passes from the battery racks directly into an airway and does not subsequently ventilate a working face.

(3) The manager shall ensure that every charging station—

(a) is constructed of non-inflammable material;

(b) is provided with suitable and sufficient apparatus for combating out-breaks of fire;

(c) is so equipped that the spilling of water or electrolyte is minimised.

(4) Any person spilling any water or electrolyte on any battery in a charging station shall forthwith wipe it up or cause it to be wiped up.

(5) In a mine or part of a mine which is not a safety-lamp mine or a safety-lamp part of a mine, no person shall, in, or within thirty feet of, any charging station, smoke or use any lamp or light other than a locked safety-lamp or an electric lamp adequately protected.

Posting of notices in charging stations

33. The manager of every mine in which any storage battery locomotive runs shall ensure that a notice is kept posted in every charging station in such characters and in such a position as to be easily seen and read by the persons resorting thereto, being a notice specifying the requirements and prohibitions of paragraphs (1), (4) and (5) (if applicable) of regulation thirty-two.

PART VIII

General

34. *Nothing in these regulations shall be taken to authorise the use of any locomotive below ground without the consent of the Minister or an inspector.

Exemptions

35. The Chief Inspector of Mines, if he is satisfied that the application of any provision of these regulations (other than a provision in relation to which an express power of exemption is contained in these regulations) is not requisite for safety in relation to any mine or part thereof, may by notice served on the manager of that mine exempt it or a part thereof from the application of that provision.

Interpretation

36. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

'the Act' means the Mines and Quarries Act, 1954;

'appointed driver' has the meaning assigned thereto in regulation seventeen;

'charging station' has the meaning assigned thereto in regulation thirty-two;

'deputy' and 'deputy's district' have the meanings assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;

*See also Section 83 of the Act, page 54.

(b) be examined thoroughly at intervals not exceeding fourteen months by a competent person so appointed.

(2) In every case in which a boiler inspection company or association has been appointed by the manager of a mine to make an examination of a steam boiler in pursuance of provisions of a scheme for the systematic examination of plant at that mine, being provisions included in that scheme in pursuance of subparagraph (b) of the last preceding paragraph, there shall, within fourteen days of the completion of the examination, be made in, or attached to, a book* provided for the purpose by the owner of the mine a report signed by the person who made the examination and countersigned by the chief engineer or other officer of similar status of the company or association.

General

10. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘boiler minder’ has the meaning assigned thereto in regulation six;

‘mine’ has the meaning assigned thereto in regulation one.

(2) Nothing in these regulations shall apply to any steam boiler forming part of a locomotive belonging to and used by a railway company.

(3) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(4) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

16. THE COAL AND OTHER MINES (SIDINGS) REGULATIONS, 1956

By the Coal and Other Mines (Sidings) Order, 1956 (S.I. 1956, No. 1773), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of Regulations 23, 150, 151, 153 to 155, 157 to 169 and 171 of the General Regulations dated 10th July, 1913†) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Sidings) Regulations, 1956.

Application

1. These regulations shall apply, at every mine of coal . . . , in relation to any railway line above ground which is deemed by virtue of subsection (3) or (5) of section one hundred and eighty of the Act to form part of the mine, being a line (except in regulation two) of a gauge not less than four feet eight and one-half inches. In these regulations ‘mine’ and ‘line’ means such a mine and such a line respectively.

*M. & Q. Forms Nos. 288(39) and 289(39A). A report must also be made on M. & Q. Form No. 287(40) on the internal examination required by Regulation 9(1)(a).

†S.R. & O. 1913, No. 748.

Transport of persons

2. (1) The manager of every mine at which trains are run on a line for the conveyance of workmen shall ensure that each such train is accompanied by, and all persons therein are in the charge of, a competent person appointed by him.

(2) No person shall get on to or off such a train when it is moving or ride upon the footboard, buffer or coupling of any vehicle forming part thereof.

Points and signal wires

3. It shall be the duty of the manager of every mine to ensure—

(a) that any points rod or signal wire installed for use in connection with a line, being a points rod or signal wire so positioned as to be a source of danger to persons employed at that mine, is sufficiently covered or otherwise guarded; and

(b) that every ground lever for the operation of points on any line at the mine, being a line constructed after the tenth day of June, nineteen hundred and eleven, is so installed that any person moving that lever is, when so doing, clear of any traffic on any adjacent line, and that that lever is—

(i) so installed that it can be moved only in directions as nearly as may be parallel to the track of rails nearest to that lever; or

(ii) of such a shape and so installed as to minimise obstruction to persons employed at the mine.

Provision of equipment and safety devices

4. It shall be the duty of the manager of every mine to ensure that there are provided in relation to every line—

(a) sufficient coupling poles or other suitable mechanical appliances for the purpose of coupling and uncoupling vehicles;

(b) where requisite, sufficient pointed wooden sprags (each of a length not exceeding three feet) and sufficient scotches; and

(c) on every self-acting incline, that is to say an arrangement in which vehicles are pulled or intended to be pulled up a line by other vehicles moving by gravity down another line, such safety devices as are necessary to prevent the occurrence of accidents likely to cause bodily injury to persons, being accidents caused by the running away of such vehicles, and, at the top of each of those lines, stop-blocks.

Operation of points

5. (1) Every person who operates points on a line by holding them in position shall, before leaving those points, satisfy himself that they are in the proper position which they are intended to resume when not so held.

(2) Every person who moves a throw-over lever which operates points on a line shall, before leaving that lever, satisfy himself that it is in the proper position in which, having regard to the safe operation of any traffic on the lines concerned, it should be placed.

‘filling station’ has the meaning assigned thereto in regulation twenty-six;
‘firedamp content’ has the meaning assigned thereto in regulation eleven;
‘housing station’ has the meaning assigned thereto in regulation twenty-five;
‘locomotive’ means a mechanically propelled vehicle running on rails and constructed or used for hauling other vehicles;

‘mine’ has the meaning assigned thereto in regulation one;

‘storage battery locomotive’ has the meaning assigned thereto in regulation four.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

15. THE COAL AND OTHER MINES (STEAM BOILERS) REGULATIONS, 1956*

By the Coal and Other Mines (Steam Boilers) Order, 1956 (S.I. 1956, No. 1772), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of Section 56 of the Coal Mines Act, 1911, and of Regulations 74 to 76 of the General Regulations dated 10th July, 1913†) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Steam Boilers) Regulations, 1956.

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations ‘mine’ means such a mine.

Safety valves, steam gauges and water gauges

2. Every steam boiler, whether separate or one of a range, at a mine shall be provided with—

(a) a suitable safety valve; and

(b) a suitable steam gauge and a suitable water gauge to show respectively the pressure of steam and the height of water in that boiler.

3. Every water gauge attached to any steam boiler at a mine shall be provided with a suitable covering or guard unless it is so constructed as to be as safe to persons working or passing near-by as it would be if so protected.

4. No person shall alter the setting of any safety valve attached to any steam boiler at a mine except with the authority of the official under whose immediate charge the boiler minder works, and no weight shall be used on a safety valve which works with weights other than a weight constructed for that purpose.

*The provisions of these Regulations are additional to the provisions of Section 84 (1) of the Act.

†S.R. & O. 1913, No. 748.

Determination and indication of maximum steam pressure

5. The manager of every mine shall, in relation to each steam boiler for the time being in use, or intended to be used, at the mine, determine the maximum pressure to which steam may be generated at pressure in that boiler and have that pressure marked upon the steam gauge in a distinctive colour.

Appointment and duties of boiler minders

6. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby every steam boiler for the time being in use at the mine is in the charge of a competent person appointed by him for that purpose (in these regulations referred to as a 'boiler minder').

7. Every boiler minder shall, with respect to every steam boiler for the time being in use at the mine and in his charge,—

- (a) from time to time during the course of each day inspect externally that boiler and all its fittings and attachments, and forthwith report to the official under whose immediate charge he works any patent defect of that boiler or of those fittings or attachments;
- (b) maintain the level of water in that boiler as nearly as practicable at the proper working level;
- (c) if the level of water in that boiler falls below, and he is unable to raise that level to, the proper working level, forthwith—
 - (i) lower the dampers;
 - (ii) damp down the fire;
 - (iii) (if it is necessary further to reduce the consumption of water) draw the fire; and

forthwith thereafter report to the official under whose immediate charge he works the facts and the nature of the action taken by him in pursuance of sub-paragraphs (i), (ii) and (iii) of this paragraph; and

- (d) ensure that the pressure to which steam is generated in that boiler does not exceed the maximum pressure determined by the manager in pursuance of regulation five.

Cleaning of boilers

8. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby every steam boiler for the time being in use at the mine is cleaned out at intervals not exceeding three months by a competent person appointed for that purpose by the manager.

9. (1) Without prejudice to the generality of regulations six and seven of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956,* it shall be the duty of the manager of every mine to ensure that a scheme for the systematic examination of plant at that mine made in pursuance of the said regulation seven provides that every steam boiler at a mine shall—

- (a) be examined internally, as far as the construction thereof will permit, by a competent person appointed for that purpose by the manager, forthwith after every cleaning of that boiler carried out in pursuance of the last preceding regulation; and

*See page 118.

Movement of vehicles

6. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby (except in the case of a vehicle being moved by a railway company) no vehicle is moved on a line otherwise than under the charge of a competent person appointed by the manager for that purpose.

7. No person shall move a vehicle, and no person in charge of a vehicle shall allow it to be moved, on a line by means of a prop or pole unless there is no other practicable method of moving the vehicle.

8. No person shall couple or uncouple any vehicle in motion in circumstances in which it is practicable to use a coupling pole or other suitable mechanical appliance for that purpose except by means of such a pole or appliance.

9. In every case in which any person employed at a mine is or might be exposed to risk of injury by reason of the movement on a line of two or more other vehicles pushed by a locomotive, the person in charge of those other vehicles shall—

- (a) accompany or precede the leading vehicle, watch the line ahead of it, and give any warning which may be requisite for the purpose of minimising that risk; or
- (b) ensure that that vehicle is accompanied or preceded by a person charged by him with the duty of watching the line ahead of it and giving any warning which may be requisite for the purpose aforesaid; or
- (c) make and secure the efficient carrying out of any other arrangements whereby that risk is minimised.

10. In every case in which the movement of a vehicle on a line would be likely to endanger the safety of any person employed at the mine, that movement shall not be made unless appropriate warning has been given to that person by the person in charge of that vehicle.

11. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby no locomotive or train is, during any period between one hour after sunset and one hour before sunrise, or in a fog, moved on a line at a part of the mine through which persons pass on foot or at which persons work, being a part at which there is not for the time being sufficient fixed artificial lighting, unless a suitable warning light is fixed to the leading end of that locomotive or train or that end is accompanied or preceded by a person carrying such a light.

12. Every driver in charge of a locomotive on a line, or a person preceding that locomotive on foot, shall, on approaching any level crossing ordinarily used by persons employed at the mine to cross that line, any curve of the line round which it is not possible to see from the locomotive or any other place at which the safety of any person employed at the mine is likely to be endangered by reason of the movement of the locomotive, give sufficient and timely warning of the approach of that locomotive, being a warning audible to persons for the time being at or near that level crossing, curve, or place (as the case may be).

13. No person shall move or attempt to move a vehicle on a line by pushing a buffer thereof.

14. (1) No person shall ride on any buffer of a vehicle in motion on a line (not being a vehicle forming part of a train with respect to which regulation two applies) unless there is a secure hand-hold easily reached by any person riding on that buffer, and no person shall stand on that buffer unless there is also a secure footplace thereon.

(2) No person shall be carried along by a vehicle on a line by riding on a pole, prop or other similar appliance.

Stationary vehicles

15. No person in charge of a vehicle at a mine shall leave it, or allow it to be left, on an incline described in paragraph (c) of regulation four, unless the vehicle is properly secured.

16. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby in every case in which, for the purpose of affording passage across a line, a space is left between two vehicles stationary on one track of rails, that space is not less than fifteen feet in width.

17. It shall be the duty of the person in immediate charge of the carrying out to any vehicle on a line of any operation of repair to ensure that, in every case in which the safety of a person engaged in that operation might be endangered as a result of the movement of a vehicle, a danger signal is displayed at or near each end of the vehicle under repair or (if that vehicle for the time being forms part of a train of vehicles) of that train (as the case may be), being an end which might be struck or moved by another vehicle.

Restrictions on passage of persons on foot

18. No person shall pass immediately in front of any vehicle moving on a line under screens at a mine, or between any vehicles so moving:

Provided that nothing in this regulation shall apply to the person in charge of that vehicle or those vehicles (as the case may be).

19. No person shall cross a line by passing underneath any vehicle thereon if by so doing his safety might be endangered by traffic.

Stacking of material beside lines

20. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby, in every case in which any material is placed (otherwise than on ground ordinarily used for the stocking of material) at a distance less than three feet from the track of rails of a line and any person employed at the mine is required in the course of his duty to pass on foot over that material or between it and the line, that material is so placed in such manner that—

- (a) every such person can so pass without being exposed to risk of injury by traffic on that line; and
- (b) if that material extends (whether continuously or not) for a distance exceeding sixty feet measured parallel with that line, there are provided at intervals not greater than sixty feet adequate spaces or recesses in that material.

Minimum age for locomotive drivers and shunters

21. (1) No person who has not attained the age of eighteen years shall be employed at a mine for the purpose of driving a locomotive on a line.

(2) No person who has not attained the age of sixteen years shall be employed in relation to a line as a shunter.

Interpretation

22. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the act’ means the Mines and Quarries Act, 1954;

‘line’ has the meaning assigned thereto in regulation one;

‘locomotive’ means a mechanically propelled vehicle running on a track of rails and constructed or used for moving other vehicles;

‘mine’ has the meaning assigned thereto in regulation one.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

17. THE COAL MINES (TRAINING)* REGULATIONS, 1956

Made by the Minister under Section 141 of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

PART I

Application

1. These regulations shall apply to every mine of coal, and in these regulations, unless otherwise expressly provided, ‘mine’ means such a mine.

PART II

Training and supervision

Training for employment in work below ground

2. Without prejudice to the generality of section eighty-eight of the Act, it shall be the duty of the manager of every mine to secure that, subject to the provisions of regulation eight of these regulations, no person who has not been employed in work below ground in any mine to which the Act applies is employed in the first-mentioned mine in work below ground (otherwise than for the purposes of the training hereinafter mentioned) unless—

- (a) he has received such training as is described in the next following regulation as nearly as may be immediately before he is first employed in that mine in work below ground; and
- (b) there has been issued by a training officer for a mine or a person whose appointment for that purpose has been notified to the inspector for the district, being in either case a person who has supervised the giving of the whole or part of that training, a certificate in such form† as the Minister may direct that he has received that training.‡

*See also the Coal Mines (Training) (Variation) Regulations, 1957 (S.I. 1957—No. 1094) which were made while this volume was in the press. They prescribe the instruction which may be given below ground to male young persons under the age of 16 who by virtue of S 124 (2) of the Act and the mines (Employment of Young Persons)(Appointed Day) Order, 1957, may not be employed below ground except for the purpose of receiving such instruction.

†M. & Q. Form No. 223 (132).

‡See other provisions about the certificate in Regulation 9(1) and (2).

3. (1) In the case of a person who has not attained the age of eighteen years when he begins it, the training referred to in the foregoing regulation is training which is given in accordance with a scheme described in the next following regulation and which, unless otherwise expressly provided in that scheme,—

- (a) is given during the working hours in which he could lawfully be employed at a mine;
- (b) comprises adequate instruction in safe and efficient methods of working below ground;
- (c) extends for at least two hundred and sixty-four hours, of which at least one hundred and thirty-two hours is spent in practical instruction in and demonstrations of mining operations (including at least sixty-six hours spent in such instruction and demonstrations below ground in a suitable part of a mine) and at least one hundred and thirty-two hours in attending classes in subjects relating to mining operations and other subjects of educational value and in physical training; and
- (d) in relation to a person who has not attained the age of sixteen and a half years when he begins such training, extends, as evenly as is practicable, over a period of six months.

(2) In the case of a person who has attained the age of eighteen years when he begins it, the training referred to in the foregoing regulation is training which—

- (a) is given during the working hours in which he could lawfully be employed at a mine;
- (b) comprises adequate instruction in safe and efficient methods of working below ground;
- (c) extends for at least a number of hours determined* by the Minister, not being less in the aggregate than one hundred and twelve hours, and is of such types as may be so determined.

(3) In reckoning any period of hours for the purpose of this regulation there shall be excluded the times properly and reasonably spent (whether above or below ground) at meals and in travelling.

4. (1) The scheme mentioned in paragraph (1) of the last foregoing regulation is a scheme approved by the Minister and containing the particulars specified in paragraph (3) of this regulation.

(2) No such scheme as aforesaid shall be submitted to the Minister for his approval except after consultation with the appropriate local education authority in regard to the subjects in which there are to be classes, the conduct of such classes and physical training.

(3) Every such scheme shall specify the manner in which the training is to be carried out and, in particular, shall specify the subject matter of, and the time to be allotted to, the classes, the practical instruction and the physical training of which such training is comprised, the places and times at which they are to be given, the nature of the accommodation and equipment to be provided for them and the arrangements for securing the effective co-ordination of the classes and the practical instruction.

*The Minister has determined that the number of hours shall be 112 (spread over a period of not less than three weeks), of which at least 76 hours shall be spent in practical instruction in, and demonstrations of, mining operations, and at least 30 hours in talks and discussions concerning subjects relating to mining operations.

*Training for employment in work at a coal face**

5. (1) Without prejudice to the generality of section eighty-eight of the Act, it shall be the duty of the manager of every mine to secure that, subject to the provisions of regulation eight of these regulations, no person who has not been employed in work at the coal face in any mine is employed in work at the coal face in the first-mentioned mine (otherwise than at a coal production face set aside for training purposes or, in the case of a mine in which the working is wholly or partly by the method known as longwall, at a part of a coal production face for the time being set aside for training purposes) unless—

- (a) he has received for at least the period of working days specified in paragraph (2) of this regulation under the close personal supervision of an instructor* or supervising workman practical training at such a face or part of a face as aforesaid, comprising instruction in performing safely and efficiently one or more of the operations specified in paragraph (3) of this regulation (including instruction in the use of machinery, apparatus and other equipment used therein);
- (b) he has been employed in work below ground in a mine for at least eighty working days or, in the case of a person who has not attained the age of eighteen years when he is first so employed and receives training at a part of a face as aforesaid, one hundred and ten working days;
- (c) there has been issued by a training officer for a mine who has supervised the giving of the whole or part of that training a certificate in such form† as the Minister may direct that he has received such training and is competent to be employed at a coal face.‡

(2) The period of training referred to in paragraph (1) of this regulation shall, where the training comprises instruction in performing one only of the operations aforesaid be sixty working days or, in the case of a person who has not attained the age of eighteen years when he begins the training and who receives it at a part of a face as aforesaid, ninety working days (which period may in either case be part of the period specified in sub-paragraph (b) of the last foregoing paragraph); and where the training comprises instruction in performing more than one such operation, the said periods of training shall be extended in respect of each such additional operation by twenty and thirty working days respectively.

(3) The operations referred to in paragraph (1) of this regulation are—

- (a) the getting of coal, including the filling or loading of coal for removal from the coal face;
- (b) in a case in which packs are built and supports withdrawn from the waste in the mine in which the person being trained is to be employed in performing that operation, the building of packs and the withdrawal of supports from the waste and in any other case, the building of packs or the withdrawal of supports from the waste;
- (c) the ripping of the roof or floor, including the building of roadside packs in a case in which such packs are built in the mine in which the person being trained is to be employed in performing that operation;

*This expression, as used here and subsequently in these Regulations, has the meaning defined in Regulation 14 (1).

†M. & Q. Form No. 224 (133).

‡See other provisions about the certificate in Regulation 9 (1) and (2).

(d) the shifting of mechanical conveyors and gate-end loaders;

(e) the use of machines for cutting or getting and loading coal;

and references in these regulations to any such operation shall include references to such subsidiary or incidental work as is normally carried out in connection therewith in the mine at which it is intended that the person being trained should be employed.

(4) The manager of a mine shall define in writing any coal production face the whole or part of which is to be used at the mine for training purposes and shall give to the inspector for the district notice of the commencement or termination, as the case may be, of the use of any such face for those purposes within seven days thereof. No face shall be used for such purposes if an inspector by notice served on the manager objects thereto.

(5) The manager of a mine shall not permit more than two coal production faces to be used partly for training purposes in pursuance of this regulation at any one time and shall ensure that not more than twenty-four persons receive training thereat during any period of twenty-four hours and that not more than six persons are being trained at any one of them at any one time.

(6) The manager of a mine shall ensure that—

(a) not more than one person being trained under this regulation is supervised by any one instructor or supervising workman at any one time unless, in relation to an instructor, an inspector by notice served on the manager so consents;

(b) no work is performed at a coal production face wholly used for training purposes or at a part of a face so used when training is in progress except by a person being trained, an instructor, a supervising workman, an official of the mine or any other person duly authorised to perform it by the manager or by an official of the mine nominated for the purpose by the manager.

(7) In any case in which a quantity of work is assigned to be done in any period of employment by a supervising workman and the person whom he is supervising, the manager of the mine shall ensure that that quantity is not more than they can reasonably do having regard to that person's experience and the attention necessary for his training.

(8) No wages of any person employed at a coal production face wholly used for training purposes or at a part of a face so used when training is in progress thereat shall depend directly on the amount of mineral gotten or the quantity of work done:

Provided that the wages of a supervising workman employed at a part of a coal production face for the time being used for training purposes may be determined by division of a payment in respect of the total amount of mineral gotten from that and the other parts of that face between persons employed at the other parts and the supervising workman if it is customary for the wages of persons employed at that face to be so determined.

Supervision of persons working below ground

6. (1) Without prejudice to the generality of section eighty-eight of the Act, it shall be the duty of the manager of every mine to secure that, subject to the provisions of regulation eight of these regulations, no person who has not been

employed in work below ground in any mine to which the Act applies is employed in the first-mentioned mine in work below ground (other than work at the coal face) unless for at least the first twenty working days of his employment below ground he is employed under the close personal supervision of an instructor or supervising workman.

(2) Without prejudice to the generality of section eighty-eight of the Act, it shall be the duty of the manager of every mine to secure that, subject to the provisions of regulation eight of these regulations, no person who has not been employed in, or received the training required by sub-paragraph (a) of paragraph (1) of the last foregoing regulation in, performing any operation specified in paragraph (3) of that regulation is employed in performing that operation unless for at least the first forty working days of his employment in performing that operation he is employed under the close personal supervision of an instructor or supervising workman:

Provided that a person may be employed at the coal face in performing such an operation without such supervision if the manager of the mine after consultation with a training officer for that mine has certified that that person may properly be so employed by reason of his general ability and his working experience below ground, including, in particular, the period during which he has been employed in performing that operation under such close personal supervision.

(3) Subject to the provisions of the next following paragraph, every instructor or supervising workman exercising supervision for the purpose of this regulation shall be nominated for duty by the manager of the mine or a training officer for that mine on his behalf and given notice in such form* as the Minister may direct, by the manager of the mine or (as the case may be) a training officer for that mine, of the person to be supervised and the nature of the work to be performed.†

(4) An instructor or supervising workman may be nominated for duty by an official of the mine where owing to unforeseen circumstances it appears to him expedient so to do to avoid any interruption in the employment under supervision of any person in pursuance of paragraph (1) or paragraph (2) of this regulation and, in any such case, the instructor or supervising workman shall be notified by the official of the mine of the person to be supervised and the nature of the work to be performed. An official who nominates an instructor or supervising workman for duty under this paragraph shall forthwith give notice of the nomination to a training officer for the mine and no instructor or supervising workman nominated for duty under this paragraph shall by virtue of that nomination exercise supervision of any person for more than three consecutive working days.

(5) The manager of a mine shall ensure that no such supervision as aforesaid may be given by an instructor or supervising workman to more than one person at any one time unless an inspector by notice served on the manager so consents.

7. No person who is being trained in pursuance of the foregoing regulations shall be at any place at a coal face unless he is accompanied by the instructor or supervising workman under whose supervision he is being trained:

*M. & Q. Form No. 225 (134).

†See other provisions about the notice in Regulation 9 (3).

Provided that nothing in this regulation shall prevent a person, who is being trained for work on the haulage or on a conveyor-loader in handling or filling tubs or as a conveyor-engine attendant, being at a roadhead for the purposes of that work.

Exceptions

8. (1) Nothing in regulations two, five and six of these regulations shall affect the employment in work below ground in a mine of any person—

- (a) as an official of the mine;
- (b) as a mechanic of the mine, an electrician of the mine, or a tradesman;
- (c) as a horsekeeper;
- (d) as the surveyor for the mine or a person solely engaged in surveying;
- (e) as a person solely engaged in carrying out observations or making measurements or partly engaged in carrying out observations and partly in making measurements; or
- (f) who is not normally employed below ground in a mine.

(2) Nothing in the said regulation two shall affect the employment in work below ground in a mine of any person as an apprentice mechanic or apprentice electrician if—

- (a) he has received such training as is described in regulation three of these regulations at any time before he is first so employed; or
- (b) he has received for not less than one hundred and twenty hours training comprising instruction in safe methods of working and travelling below ground, practical instruction in, and demonstrations of, mining operations, and talks and discussions on subjects relating to mining operations.

(3) Nothing in the said regulation two shall affect the employment in work below ground in a mine of any person who is taking a course of study at an institution approved* by the Minister leading to a degree or diploma so approved and who is for at least the first twenty working days of his employment below ground employed under the close personal supervision of an official of the mine or of an instructor or supervising workman by whom no supervision is given to more than one person at any one time unless an inspector by notice served on the manager so consents.

(4) Nothing in the said regulation two shall affect the employment in work below ground in a mine of any person who—

- (a) has within the six months immediately before the commencement of his employment been inscribed as a teacher or student on the books of a university or training establishment outside the United Kingdom, being a university or training establishment recognised as such by the government of the country in which it is situate;
- (b) has had not less than four months practical experience of mining below ground in one or more mines outside the United Kingdom; and
- (c) has, to the satisfaction of the manager of the mine, a sufficient knowledge of the English language.

*See Second Schedule to the Mining Examinations (Certificates of Competency) Rules, 1952, page 302.

(5) Nothing in the said regulation two shall affect the employment in work below ground in a mine of any person as a person solely engaged in performing operations for the sinking of any shaft or driving of any drift from the surface of the mine if—

- (a) he has attained the age of eighteen years; and
- (b) he has received, during not less than five days and for not less in the aggregate than thirty hours, training comprising practical instruction in and demonstrations of such operations as aforesaid (including instruction in and demonstrations of the use of machinery, apparatus and other equipment used therein) and talks and discussions on subjects relating to those operations.

(6) Nothing in the said regulation two shall affect the employment in work below ground in a mine of any person who—

- (a) has attained the age of eighteen years;
- (b) has received such training as is described in the immediately foregoing paragraph; and
- (c) has had not less than nine months experience in performing such operations as are described in that paragraph.

(7) Nothing in paragraphs (2), (4), (5) and (6) of this regulation shall affect the application of the said regulation six to a person to whom any of those paragraphs applies.

(8) Nothing in the said regulation five shall affect the employment in work at the coal face in a mine, otherwise than in performing any operation specified in paragraph (3) of that regulation, of any person as an apprentice mechanic or apprentice electrician if—

- (a) the employment consists of such instruction and supervision from an instructor or supervising workman as will ensure that he is acquainted with the conditions in which work is performed at the coal face and the dangers involved therein; or
- (b) he has received such instruction and supervision for not less than twenty working days (which shall so far as is practicable be twenty consecutive working days) and, in the case of a person whose instruction and supervision as aforesaid were received by him during the first twenty working days of his employment below ground, there is or was provided for him during the next following twenty working days of his employment below ground the close personal supervision of an instructor or supervising workman by whom no supervision is given to more than one person at any one time unless an inspector by notice served on the manager so consents.

(9) Nothing in the said regulation five shall affect the employment in work at the coal face in a mine of any person who—

- (a) has within the six months immediately before the commencement of his employment been inscribed as a teacher or student on the books of a university or training establishment outside the United Kingdom, being a university or training establishment recognised as such by the government of the country in which it is situate;

- (b) has had not less than two years practical experience of mining below ground, including experience of not less than one year of work at the coal face, in one or more coal mines outside the United Kingdom;
- (c) has, to the satisfaction of the manager of the mine, a sufficient knowledge of the English language; and
- (d) is during the whole period of his employment at the coal face employed under the close personal supervision of an instructor or supervising workman by whom no supervision is given to more than one person at any one time unless an inspector by notice served on the manager so consents.

PART III

Certificates and notices

9. (1) A copy of every certificate issued under paragraph (b) of regulation two or sub-paragraph (c) of paragraph (1) of regulation five of these regulations shall be kept at the office at the mine at which the person to whom it relates is employed, or at such other place as may be approved by an inspector, and shall be preserved during his employment at the mine and, subject to the provisions of the next following paragraph, for twelve months thereafter.

(2) The manager of every mine shall ensure that a copy of every certificate preserved at that mine in pursuance of the foregoing paragraph and relating to a person who has ceased to be employed thereat shall be sent forthwith to the manager of the mine (if any) at which that person is next thereafter employed upon being given notice of his employment at that mine by the manager thereof.

(3) A copy of every notice given under paragraph (3) of regulation six of these regulations shall be kept at the office at the mine at which the instructor or supervising workman nominated for duty thereat in accordance with that paragraph is employed, or at such other place as may be approved by an inspector, for twelve months after it is given.

PART IV

Appointment and duties of training officers

10. (1) It shall be the duty of the manager of every mine to appoint a training officer or such number of training officers as may be required to superintend the training provided at the mine in pursuance of the foregoing regulations and the manager shall forthwith give notice of each such appointment to the inspector for the district.

(2) A training officer for a mine at which more than one thousand persons are employed, or where there is more than one training officer at least one of them, shall devote his full time to his duties as training officer for that mine.

(3) The manager of a mine at which the number of persons employed is not more than one thousand shall not assign to a training officer any other duties which would prejudice the thorough performance of his duties as training officer for that mine.

(4) If owing to the special circumstances of any mine it appears to an inspector expedient so to do he may by notice served on the manager require—

- (a) that one or more training officers shall be appointed in addition to those required by the foregoing provisions of this regulation;
- (b) that a training officer shall be appointed who is required to devote his full time to his duties as training officer at that mine;
- (c) that a training officer who is not required to devote his full time to his duties as training officer at that mine shall devote at least such time to the performance of those duties as may be specified.

(5) A training officer shall be deemed to devote his full time to his duties notwithstanding that in addition to his duties as such he performs other duties relating to the safety of persons who are employed at the mine, or that at any time while the number of persons being trained below ground in pursuance of regulations two and five of these regulations or who have not had experience for at least eighteen months of work below ground in a mine does not exceed fifty, he performs other duties in relation to the mine.

(6) Where a training officer is not required under this regulation to devote his full time to his duties as such the manager of the mine shall give notice to him of the days or parts of the days in each week on which he is required to perform such duties and a copy of the notice while in force shall be kept at the mine at which he is to perform those duties or at such other place as may be approved by an inspector.

11. (1) It shall be the duty of a training officer for a mine—

- (a) to superintend the training and supervision provided at the mine in pursuance of these regulations;
- (b) to keep records of the training provided for any person employed at the mine in pursuance of regulations two and five of these regulations and to furnish weekly reports to the manager of the mine on the progress of that person during the period of his training;
- (c) to keep records of the supervision provided for any person employed at the mine in pursuance of regulation six of these regulations and to furnish weekly reports to the manager of the mine on the progress of that person during the period of his supervision;
- (d) to make recommendations to the manager of the mine in regard to any training for the future employment of any person employed thereat;
- (e) to furnish quarterly reports to the manager of the mine on the progress of any person employed below ground thereat who has not had experience for at least eighteen months of work below ground in any mine;
- (f) to supervise the welfare while at work at the mine of any person employed thereat who has been employed for less than six months at a mine.

(2) The records and reports described in the foregoing paragraph of this regulation shall be kept for twelve months at the office at the mine at which the person to whom they relate is employed or at such other place as may be approved by an inspector.

(3) The manager of every mine shall ensure that every record and report relating to a person who has ceased to be employed thereat or a copy thereof shall be sent forthwith to the manager of the mine (if any) at which that person is next thereafter employed upon being given notice of his employment at that mine by the manager thereof.

PART V

General

Defences in legal proceedings

12. Where in any legal proceedings it is alleged that a person was so employed in work below ground in any mine that one or more of the foregoing provisions of these regulations has been contravened, it shall be a defence to prove—

- (a) that he was so employed for the purpose of saving life or dealing with circumstances arising out of an accident; or
- (b) that owing to unforeseen circumstances his employment was urgently required to prevent serious interference with the safe working of the mine and that he was sufficiently qualified and experienced to be so employed.

Exemptions

13. The Minister may by notice served on the manager of a mine exempt that mine or any person employed thereat from the application of any of the foregoing provisions of these regulations.

Interpretation

14. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say:

‘the Act’ means the Mines and Quarries Act, 1954;

‘instructor’ means a person appointed by the manager of a mine in pursuance of section thirteen of the Act who is competent to give instruction and supervision in the performance of the work in which instruction and supervision are being given, who is required to devote his whole time to giving instruction and supervision, and who does not himself assist in the performance of the work in which he is giving instruction and supervision otherwise than for the purpose of demonstration;

‘mine’ has the meaning assigned thereto in regulation one;

‘supervising workman’ means a workman appointed by the manager of a mine in pursuance of section thirteen of the Act who is skilled in the performance of the work in which instruction and supervision are being given;

‘work at the coal face’ includes any work performed within thirty feet of a face at which coal is got (other than work performed by a person employed on the haulage or on a conveyor-loader in handling or filling tubs, or as a conveyor-engine attendant, at a roadhead), but does not include work performed at a coal production face or part of such a face for the time being set aside for training purposes.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

Commencement and citation

15. These regulations shall come into operation at the commencement of the Act and may be cited as the Coal Mines (Training) Regulations, 1956.

18. FIRST AID

(a) THE COAL AND OTHER MINES (FIRST AID) REGULATIONS, 1956

By the Coal and Other Mines (First Aid) Order, 1956 (S.I. 1956, No. 1774), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of the Coal Mines General Regulations (First Aid) 1930* and the Coal Mines (First Aid) Amending Regulations, 1937†) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (First Aid) Regulations, 1956.

PART I

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations 'mine' means such a mine.

PART II

Surface organisation

2. (1) It shall be the duty of the manager of every mine at which at any one time there are more than one hundred persons at work to secure provision on the surface thereof of a suitable first aid room of easy approach and complying with the following provisions of this regulation.

(2) Every such first aid room shall—

- (a) be near to a shaft or outlet normally used by persons employed below ground;
- (b) be used only for first aid and ambulance work and be separated from accommodation used for any other purpose;
- (c) have a floor area not less than one hundred square feet;
- (d) be adequately heated and lighted and kept clean and properly maintained; and
- (e) be clearly distinguished by the words 'First Aid' on the door.

(3) Every such first aid room shall contain—

- (a) a stretcher with blankets and hot-water bottles and a table of convenient height large enough to stand the stretcher on;
- (b) a bench or chairs;
- (c) a glazed sink with hot and cold water readily available;
- (d) soap, towels and a nail brush;
- (e) sterilized dressings, bandages and adhesive plaster;
- (f) suitable antiseptic and eyedrops;
- (g) splints (four and a half feet, three feet and one foot), the appropriate triangular bandages therefor and splint padding;

*S.R. & O. 1930, No. 91.

†S.R. & O. 1937, No. 548.

(h) a tourniquet, scissors, camel-hair brushes and safety-pins;

(i) drinking water and a bottle of meat extract, coffee extract or other stimulant and a drinking vessel.

3. (1) The manager of every mine at which a first aid room is required to be provided shall appoint persons to be in charge thereof, each of whom shall be a registered medical practitioner, registered nurse or the holder of a certificate of proficiency in first aid granted by a society or body approved* by the Minister for the purpose, so that such a person is readily available at all times at which any person is working at the mine.

(2) Every person appointed to be in charge of a first aid room shall record particulars of each case treated thereat while he is on duty specifying the time and date, the name of the person treated, the nature of the injury or sickness and the name of the person administering the treatment.

4. (1) It shall be the duty of the manager of every mine at which a first aid room complying with regulation two is not required to be provided to secure that there is constantly available under shelter suitable accommodation on the surface at which first aid can be rendered to persons who while employed at the mine suffer bodily injury or become ill and where such persons can be protected from exposure.

(2) At such accommodation or in some other suitable place there shall be provided—

(a) a stretcher with blankets and hot-water bottles;

(b) splints (four and a half feet, three feet and one foot), the appropriate triangular bandages therefor and splint padding;

(c) a first aid box distinctively marked 'First Aid' and containing a copy of any first aid leaflet approved or designated† for the purpose by the Minister but otherwise containing nothing except first aid requisites or appliances.

(3) Each such first aid box shall contain—

(a) sterilized dressings of large and small sizes including non-medicated burn dressings;

(b) sterilized cotton wool in half-ounce packets and adhesive plaster;

(c) roller bandages;

(d) suitable antiseptic and eyedrops;

(e) a tourniquet, scissors and safety-pins;

(f) a bottle of meat extract, coffee extract or other stimulant and a drinking vessel.

(4) The manager shall appoint responsible persons to be in charge of such accommodation and equipment so that such a person is readily available at all times at which any person is working at the mine.

*See list of approved societies and bodies on page 279.

†M. & Q. Form No. 264 (99).

PART III

Underground organisation

5. (1) Subject to the provisions of regulation eight, it shall be the duty of the manager of every mine to appoint persons, who hold certificates of proficiency in first aid granted by a society or body approved* by the Minister for the purpose, and to make arrangements to secure that—

- (a) there is in each deputy's district on each shift one such person for each fifty persons, and one such person for any person or persons not thus taken into account, in the total number of persons wholly or mainly employed in that district on that shift; and
- (b) there is in the remainder of the mine below ground on each shift one such person for each thirty persons, and one such person for any person or persons not thus taken into account, in the total number of persons wholly or mainly employed therein on that shift.

(2) In any prosecution for a contravention of the last preceding paragraph, it shall be a defence to prove that the manager has made the necessary arrangements for the training of a sufficient number of persons and made reasonable efforts to induce appropriate persons to be trained and that the failure to comply fully was due to an insufficiency of persons able and willing to acquire the requisite qualification.

(3) There shall be provided in the covered accommodation provided in accordance with section one hundred and thirty-five of the Act and in the first aid room (if any) a notice stating the names of the persons for the time being appointed in pursuance of paragraph (1) of this regulation.

6. (1) Subject to the provisions of regulation eight, it shall be the duty of the manager of every mine to make and ensure the efficient carrying out of arrangements whereby dressings and antiseptic for use therewith provided by the owner of the mine are available for use below ground in one or both of the following ways, that is to say—

- (a) every person employed below ground has with him a first aid outfit securely packed to protect it against damage, dirt and wet and consisting of one large sterilized dressing, one small sterilized dressing and an ampoule of suitable antiseptic;
- (b) every person designated to secure compliance with paragraph (1) of the last preceding regulation on that shift has readily available to him a first aid box marked with the words 'First Aid' and containing nothing except first aid requisites or appliances.

(2) Each such first aid outfit or first aid box shall be taken to the surface by the person in charge of it at the end of his shift, and the manager shall make and ensure the efficient carrying out of arrangements to secure that before re-issue it is examined, and where necessary replenished, by a competent person appointed by him.

(3) Each such first aid box shall contain—

- (a) not less than four large sterilized dressings including not less than one non-medicated burn dressing;

*See list of approved societies and bodies on page 279.

- (b) not less than six small sterilized dressings; and
- (c) not less than three ampoules of suitable antiseptic.

7. (1) Subject to the provisions of regulation eight, it shall be the duty of the manager of every mine to secure the provision at suitable places below ground throughout the mine of—

- (a) suitable stretchers;
- (b) splints (four and a half feet, three feet and one foot) the appropriate triangular bandages therefor and splint padding;
- (c) a tourniquet; and
- (d) except where first aid boxes are available in pursuance of the last preceding regulation, non-medicated burn dressings.

(2) Any stretcher kept in a wet or damp place shall be constructed of rot-proof or rust-proof material, and any other article provided in pursuance of the last preceding paragraph shall be kept in a suitable box marked with the words 'First Aid'.

8. The preceding provisions of this Part of these regulations shall not apply to—

- (a) a mine consisting of a shaft or unwalkable outlet in the course of being sunk or driven; or
- (b) a mine at which less than thirty persons are employed below ground other than a mine with respect to which there is for the time being in force a direction given by an inspector by notice served on the manager, on the ground that the surface organisation and equipment thereat are not sufficient to ensure prompt first aid treatment below ground, that the preceding provisions of this Part of these regulations shall apply thereto.

PART IV

Ambulances

9. (1) The owner of every mine shall make such arrangements as will provide an effective motor ambulance service for the conveyance, where necessary to hospitals or their homes of persons who while employed at the mine suffer bodily injury or become ill.

(2) Arrangements shall be deemed not to comply with the provisions of the last preceding paragraph unless a sufficient number of motor ambulances are (when not in actual use)—

- (a) in constant readiness for use with a driver readily available;
- (b) stationed at a base not more than ten miles by road from the entrance to the mine; and
- (c) in the case of a mine at which more than ten persons are employed below ground, stationed at a base in telephonic communication with the mine:

Provided that if an inspector is of opinion that it is impracticable in the case of any mine for the owner to make such arrangements he may by notice served on the owner authorise—

- (i) arrangements in which the ambulances are stationed at a base which is more than ten miles from the mine or which is not in telephonic communication with the mine; or
- (ii) such other not less effective arrangements as the owner may be able to make.

PART V

General

Means of conveyance through shafts and unwalkable outlets

10. It shall be the duty of the manager of every mine to secure the provision thereof of a suitable appliance to minimise discomfort and prevent aggravation of any injury at—

- (a) every shaft or unwalkable outlet through which injured persons are raised and in which the cage or carriage is not large enough to permit of a stretcher being laid flat therein;
- (b) every shaft or unwalkable outlet through which persons are raised otherwise than in a cage or carriage in pursuance of an exemption given by an inspector; and
- (c) every shaft or unwalkable outlet in the course of being sunk or driven.

Maintenance of accommodation and equipment

11. It shall be the duty of the manager to make and ensure the efficient carrying out of arrangements whereby all accommodation and equipment provided in pursuance of these regulations is inspected by competent persons appointed by him at such intervals as to secure that any defect or deficiency is promptly brought to his notice and remedied, and such arrangements shall in particular ensure prompt replacement of any materials which have been used.

Standard of dressings

12. Every dressing provided in pursuance of these regulations and in respect of which a standard is specified in the British Pharmaceutical Codex shall comply in all respects with that standard.

13. The provisions of these regulations with regard to the provision of facilities and equipment for the purpose of rendering first aid shall be without prejudice to the generality of subsection (1) of section ninety-one of the Act.

Interpretation

14. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘deputy’s district’ has the meaning assigned thereto in the Coal and Other Mines (Managers and Officials) Regulations, 1956;*

‘mine’ has the meaning assigned thereto in regulation one.

(2) Expressions to which meanings are assigned by the Act or by these regulations shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these regulations.

*See page 107.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

(b) LIST OF SOCIETIES AND OTHER BODIES APPROVED FOR THE
PURPOSE OF GRANTING CERTIFICATES OF PROFICIENCY IN
FIRST AID

	<i>Date of approval</i>
Birmingham University	5 June, 1915
British Red Cross Society	11 May, 1915
Glamorganshire Education Committee*	2 February, 1915
Heriot-Watt College, Edinburgh	9 February, 1915
King's College, Newcastle-upon-Tyne	19 June, 1939
Leeds University	8 May, 1950
St. Andrew's Association	10 July, 1913
St. John Ambulance Association	10 July, 1913

19. THE COAL MINES (MEDICAL EXAMINATIONS) REGULATIONS, 1956

By the Coal Mines (Medical Examinations) Order, 1956 (S.I. 1956, No. 1775), made under section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal Mines (Medical Examinations) Regulations, 1956.

The order provides that any notice or certificate given in pursuance of the Coal Mines (Medical Examinations) General Regulations, 1952 (S.I. 1952, No. 2070) shall, in so far as it could have been given for the purposes of these regulations, and in so far as it relates to anything to be done at a time after the commencement of the Act or is in force at the commencement of the Act, have effect as if it had been given for the purposes of, or in pursuance of, medical examination in accordance with these regulations, and in any case in which those regulations of 1952 cease to have effect before the issue of a certificate in pursuance of an examination made thereunder, that examination shall be deemed for the purposes of the issue of a certificate, and the effect thereof, to have been made in accordance with the provisions of these regulations.

Application

1. These regulations shall apply to every mine of coal, and in these regulations 'mine' means such a mine.

Medical examination of young persons and issue of certificates

2. (1) The owner of every mine shall make arrangements for the medical examination at the expense of the owner by a registered medical practitioner approved by the Minister of every young person when first employed, or about to be employed, at that mine, other than a young person who has been so medically examined in connection with employment at another mine.

*Certificates have not been issued by this body since 1932, but examinations on its behalf are conducted by St. John Ambulance Association.

(2) Such arrangements shall provide for the medical practitioner to issue to the young person examined and the manager of the mine certificates in a form* approved by the Minister of the fitness of the young person examined for employment at a mine.

(3) A certificate may specify that the young person examined is fit or unfit for employment at a mine, or is unfit for such employment in a particular capacity or in particular work, and may state that further examination is requisite after a period specified in the certificate.

(4) The arrangements made under paragraph (1) shall provide for any further medical examination stated to be requisite in such a certificate.

Notices

3. (1) Where any young person, in respect of whose medical examination arrangements are required to be made by the preceding regulation, is employed, or about to be employed, at any mine, the manager shall, not later than four days from the beginning of such employment—

- (a) give notice to the medical practitioner by whom that young person is to be examined, including the name, date of birth and residence of that young person; and
- (b) give notice to that young person requiring him to attend the medical practitioner for examination within thirty days of the beginning of his employment at that mine.

(2) Where any young person, in respect of whose further medical examination arrangements are required to be made by the preceding regulation, is employed at any mine, the manager shall, not later than four days before the end of the period specified in his certificate—

- (a) give notice to the medical practitioner by whom that young person is to be examined, including the name, date of birth and residence of that young person and particulars of the certificate already issued to him; and
- (b) give notice to that young person requiring him to attend the medical practitioner for further examination within thirty days after the end of the period specified in that certificate.

Prohibition on employment of certain young persons

4. (1) No young person, who has failed without reasonable cause to submit himself for medical examination or further medical examination in accordance with a notice given to him under the last preceding regulation, or whose employment at any mine was immediately before the commencement of the Act prohibited by paragraph (1) of regulation three of the Regulations of 1952, shall be employed at any mine until he has been medically examined or further examined, as the case may be, in accordance with these regulations.

(2) No young person shall be employed at any mine, or employed in any particular capacity or in particular work at a mine, after the end of a period of fourteen days from the issue, after medical examination in accordance with these regulations, of a certificate stating that he is unfit for any employment at a mine, or for employment in that capacity or in that work, as the case may be, or if such a certificate has been issued under the Regulations of 1952.

*M. & Q. Form No. 218.

Records and information

5. (1) It shall be the duty of the manager of every mine to enter in the register of young persons kept in pursuance of section one hundred and thirty-one of the Act in such form and manner as may be specified* by the Minister—

(a) particulars of every notice given to a young person to attend for medical examination or further examination and of every certificate issued after such examination; and

(b) in any case in which the employment of a young person was terminated in pursuance of regulation four, the date and reason therefor.

(2) The manager of any mine shall, if so requested by the manager of any other mine, send to him any such information recorded in that register or the register kept in pursuance of the Regulations of 1952 with respect to any young person as he may reasonably require to enable him to comply with these regulations with respect to the employment of that young person at that other mine.

Interpretation

6. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘mine’ has the meaning assigned thereto in regulation one;

‘Regulations of 1952’ means the Coal Mines (Medical Examinations) General Regulations, 1952.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

20. THE COAL AND OTHER MINES (SANITARY CONVENIENCES) REGULATIONS, 1956†

By the Coal and Other Mines (Sanitary Conveniences) Order, 1956 (S.I. 1956, No. 1776), made under Section 190(1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of Regulations 106 to 112 of the General Regulations dated 10th July, 1913‡) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Sanitary Conveniences) Regulations, 1956.

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations ‘mine’ means such a mine.

Location and construction of sanitary conveniences

2. It shall be the duty of the manager of every mine to ensure that sanitary conveniences provided at the mine in pursuance of section ninety-four of the Act are provided—

*M. & Q. Form No. 218.

†The provisions of these Regulations are additional to the provisions of Section 94 of the Act, page 56.

‡S.R. & O. 1913, No. 748.

- (a) in or adjacent to the winding engine house;
 - (b) at such other suitable places above ground as may be requisite in order to afford to every person employed at the mine convenient access to one at least of such conveniences;
 - (c) at or adjacent to every entrance below ground to every shaft and outlet, being an entrance ordinarily used by persons for the purpose of getting to or from their working places in the mine; and
 - (d) at suitable places along any length of road below ground, being a length which is a main intake airway or a main return airway for the purposes of the Coal and Other Mines (Ventilation) Regulations, 1956* so far as may be requisite for persons normally employed at places along that length of road.
3. It shall be the duty of the manager of every mine to ensure—
- (a) that all sanitary conveniences provided above ground at the mine are—
 - (i) under cover; and
 - (ii) so screened as to secure privacy for persons using them;
 - (b) that in any case where persons of both sexes are, or are intended to be, employed at the mine, every sanitary convenience provided above ground at the mine for the use of persons of one sex is—
 - (i) so placed or screened that, whatever the position for the time being of any door thereto, no part of the interior of that convenience can be seen from any place where any person of the other sex may work or pass; and
 - (ii) (if it adjoins a sanitary convenience provided for the use of persons of the other sex) readily approachable by a way separate from every way of approach to that other convenience; and
 - (c) that every sanitary convenience provided at the mine for the use of females is provided with a door which can be firmly secured on the inside when shut.

Equipment and cleaning of sanitary conveniences

4. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby (except in the case of urinals, water-closets and conveniences so constructed and used that any deposit flows therefrom to a separate container and is therein chemically treated)—

- (a) an adequate supply of disinfectant, dry coal dust, or other suitable substance for covering faeces is constantly provided in a suitable receptacle at every sanitary convenience at the mine;
- (b) every sanitary convenience below ground at the mine is provided with a portable receptacle with a lid, both being made of suitable material;
- (c) every receptacle provided in pursuance of sub-paragraph (b) is, at such intervals as may be necessary and in any case at intervals not exceeding seven days, emptied above ground or below ground in waste, and cleaned; and
- (d) the contents of every such receptacle emptied below ground in any waste are forthwith disposed of in that waste in a hygienic manner.

*See page 169.

Use of sanitary conveniences

5. (1) No person shall relieve his bowels at a mine above ground or on a road below ground otherwise than in a sanitary convenience.

(2) No person shall improperly soil or render unfit for use any sanitary convenience at a mine or any sanitary utensil or appliance provided for use at such a sanitary convenience.

(3) Every person who relieves his bowels below ground at a mine (otherwise than in a water-closet or a convenience so constructed and used that any deposit flows therefrom to a separate container and is therein chemically treated) shall forthwith cover the faeces with disinfectant, dry coal dust, or other suitable substance.

Interpretation

6. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘mine’ has the meaning assigned thereto in regulation one.

(2) The Interpretation Act, 1889, shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

21. THE COAL AND OTHER MINES (HORSES) REGULATIONS, 1956

By the Coal and Other Mines (Horses) Order, 1956 (S.I. 1956, No. 1777), made under Section 190 (1) of the Mines and Quarries Act, 1954, the provisions set out below (which re-enacted provisions of the Third Schedule to the Coal Mines Act, 1911, as amended by the Coal Mines General Regulations of 10th February, 1922,* and the Coal Mines (Horses) General Regulations, 1949†) have effect as if they were regulations made under Section 141 of the Act coming into operation at the commencement of the Act, and may be cited as the Coal and Other Mines (Horses) Regulations, 1956.

Application

1. These regulations shall apply to every mine of coal . . . , and in these regulations ‘mine’ means such a mine.

Age and health of horses employed below ground

2. No horse shall—

(a) be taken below ground at a mine unless it has attained the age of four years; or

(b) be taken or allowed to be below ground at a mine if it is blind.

3. No horse shall be taken below ground at a mine unless as shortly as practicable before being so taken it has been subjected to a test for the purpose of ascertaining whether it is suffering from glanders, and has been certified to be free therefrom, by a duly registered veterinary surgeon (in these regulations referred to as a ‘veterinary surgeon’).

*S.R. & O. 1922, No. 113.

†S.I. 1949, No. 2330.

4. (1) It shall be the duty of the manager of very mine to ensure that every horse employed below ground at that mine is, at intervals not exceeding twelve months, examined by a veterinary surgeon.

(2) A report of every such examination (including a certificate as to the fitness or permanent or temporary unfitness of the horse concerned for work or for work below ground at the mine, as the case may be) shall forthwith be recorded in the book* in which the record relating to that horse is required to be kept in pursuance of paragraph (1) of regulation ten of these regulations, and signed by the veterinary surgeon who made the examination.

(3) Any horse certified as aforesaid to be permanently unfit for work or for work below ground at a mine shall (if below ground) forthwith be brought to the surface.

(4) No horse certified as aforesaid to be permanently or temporarily unfit for work shall be disposed of alive otherwise than for immediate destruction or to a home of rest maintained for the reception of animals not then fit for work or to a responsible person not carrying on the business of dealing in horses.

(5) Where a horse, having been certified as aforesaid to be permanently unfit for work or for work below ground at a mine, is destroyed or otherwise disposed of, a statement of the manner of that disposal shall be recorded forthwith by a person appointed for the purpose by the manager in the book* in which the record relating to that horse was last required to be kept in pursuance of paragraph (1) of regulation ten of these regulations.

Carriage of horses

5. No horse shall be carried through any part of a mine on a vehicle except when it is impracticable or dangerous for it to walk because of an accident in that mine, or when the horse has been injured or is ill:

Provided that nothing in this regulation shall restrict the carrying of any horse by means of winding or haulage apparatus through a shaft or staple-pit or on an incline, being an incline too steep for that horse to walk thereon with safety.

Prohibition of riding on horses

6. No person shall ride on a horse below ground at a mine.

Periods of employment of horses

7. (1) No horse shall be allowed to be out of its stable for the purpose of work during any period—

- (a) of twenty-four hours, during more than two shifts;
- (b) of forty-eight hours, during more than three shifts; or
- (c) of seven days, during more than seven shifts or for more than forty-eight hours in the aggregate:

Provided that nothing in this regulation shall restrict the working of any horse where necessary through unforeseen circumstances for the purpose of—

- (i) saving life;
- (ii) remedying the effect of an accident; or
- (iii) avoiding serious interference with ordinary work in the mine.

*M. & Q. Form No. 265 (50).

(2) It shall be the duty of the appropriate horse-keeper to ensure compliance with the provisions of the last preceding paragraph.

(3) For the purposes of this regulation the period of work on any day (excluding any overtime) of any person under whose charge a horse is when out of its stable shall be regarded as a shift.

Appointment and duties of horse-keepers

8. The manager of every mine shall make and secure the efficient carrying out of arrangements whereby a competent person appointed for the purpose by the manager (in these regulations referred to as a 'horse-keeper') has the care of each horse employed below ground at the mine when it is in a stable at that mine, and without prejudice to the generality of that requirement the number of horse-keepers so appointed shall not be less than one for each fifteen horses, and one for any number of horses not thus taken into account, in the total number of horses employed below ground at that mine.

9. Every horse-keeper shall—

- (a) ensure that no horse for the time being under his care leaves its stable, for the purpose of work, in an unfit condition, improperly shod or wearing harness otherwise than of a proper fit and in good condition and having a guard for the eyes; and
- (b) forthwith after the return to its stable of any horse for the time being under his care, examine that horse and its harness, attend to any injury to that horse, and clean and groom it or cause it to be cleaned and groomed.

10. (1) In the case of every mine at which any horse is employed, there shall be kept, in a book* provided for the purpose by the owner of the mine, a record of each horse for the time being so employed.

(2) Every horse-keeper shall, with respect to every horse for the time being under his care, make a full and accurate report every day in the book provided in pursuance of the last preceding paragraph, stating in particular—

- (a) the condition of the horse;
- (b) the name of every person (other than the horse-keeper) who has been in charge of it;
- (c) In any case in which it has been taken from its stable, the times at which it was taken therefrom and returned thereto;
- (d) the nature and period of any working of that horse for any purpose specified in the proviso to paragraph (1) of regulation seven of these regulations, being working which, but for the operation of that proviso, would be prohibited by that regulation;
- (e) the nature of any report made to or by him in pursuance of paragraph (2) of regulation fourteen or paragraph (1) of regulation fifteen (as the case may be) of these regulations, and the nature of any action known by him to have been taken as a consequence of that report; and
- (f) any other information for which provision is made in that book.

*M. & Q. Form No. 265 (50).

Construction, equipment and use of stables

11. (1) The manager shall ensure that no stable below ground at a mine is used to house any horse unless—

- (a) no part of it is in a road on which any person travels to or from his working place, vehicles (other than vehicles used for the servicing of the stable) run or conveyors are operated;
- (b) it is provided with suitable and sufficient artificial lighting;
- (c) it is ventilated by air which has not ventilated any working face;
- (d) there is provided, at its return end, one loose box, of adequate size to house the largest horse for the time being in that stable, for each twenty-five horses, and one such loose box for any number of horses not thus taken into account, in the total number of horses for the time being housed in that stable;
- (e) there are provided one or more drinking troughs, so constructed as to be easily drained and cleaned, being adequate in aggregate length and capacity for the horses for the time being housed in that stable;
- (f) the floor throughout is paved or of concrete; and suitable drainage is provided for every stall and loose box therein; and
- (g) every roof, wall and partition (other than a roof, wall or partition which has been painted or is made of slate, tiles, glazed brick or iron) has been limewashed before being so used and at intervals not exceeding three months during such use.

(2) The manager shall ensure that no stall below ground at a mine is used—

- (a) to house more than one horse;
- (b) to house any horse, unless it is fitted with a manger.

(3) The manager shall make and secure the efficient carrying out of arrangements to ensure that every horse below ground at the mine is provided with accommodation in a stable and, except when in a loose box, in a stall of adequate size for that horse.

12. The manager of every mine at which any horses are employed below ground shall make and secure the carrying out of efficient arrangements to ensure that—

- (a) every stable in use is cleaned daily, and kept in a sanitary condition;
- (b) an adequate supply of clean straw or other suitable bedding is provided for the use of every horse in a stable;
- (c) there is provided daily, and so far as practicable protected from dust and other deleterious substances before it is consumed, an adequate supply of wholesome food and wholesome drinking water for every horse for consumption while the horse is in its stable and while it is out of its stable for the purpose of working;
- (d) every receptacle for such food and water is so far as practicable so constructed as to protect the contents from dust and other deleterious substances;

- (e) an adequate supply of medicines, ointments and dressings of a kind suitable for horses, and suitable and sufficient apparatus for the destruction of horses requiring to be destroyed, are provided and kept readily available for use.

Duties of persons in charge of horses outside the stables

13. (1) The manager shall make and secure the efficient carrying out of arrangements to ensure that every horse below ground at the mine is, when out of its stable, under the charge of a person appointed for that purpose.

(2) Every person appointed in pursuance of the last preceding paragraph, when in charge of a horse out of its stable, shall—

- (a) be responsible for that horse throughout the period from his taking charge of it until he returns it to a horse-keeper at its stable or otherwise disposes of it in accordance with an order given to him by an official of the mine or a horse-keeper;
- (b) when driving it, do so carefully;
- (c) comply with any instructions relating to the horse given to him by an official of the mine or a horse-keeper;
- (d) in every case in which the horse is out of its stable for a period exceeding four hours, feed and water it, or cause it to be fed and watered during that period;
- (e) unless otherwise ordered by an official of the mine or a horse-keeper, return it not later than the end of his shift to a horse-keeper at its stable;
- (f) unless the horse is properly secured, remain with it throughout the period during which it is in his charge.

14. (1) No person shall at any time work a horse below ground at a mine if—

- (a) it is unfit;
- (b) it is not properly shod; or
- (c) it is wearing harness which does not fit properly or is not in good condition or is without a guard for the eyes.

(2) In any case in which a person, other than a horse-keeper, for the time being in charge of a horse below ground at a mine has reason to believe that—

- (a) the horse is unfit, is injured, or shows any symptoms of overwork; or
- (b) the horse is not properly shod; or
- (c) the horse is wearing harness which does not fit properly or which is not in good condition, or is without a guard for the eyes; or
- (d) there is any inadequacy in the supply of food or water for the horse at or near any place where it is working; or
- (e) the horse or its harness has rubbed against the roof or sides of a road; or
- (f) any other matter has arisen affecting or likely to affect the care or treatment of the horse;

he shall forthwith report the matter to the official under whose immediate charge he works and to a horse-keeper.

Reports of sick, injured, etc., horses

15. (1) In any case in which it comes to the notice of an official of the mine that a horse for the time being in the charge of a person who works under the immediate charge of that official, and in any case in which it comes to the notice of a horse-keeper that a horse for the time being under his care (as the case may be)—

- (a) is unfit, is injured, or shows any symptoms of overwork; or
- (b) bears any marks indicating ill-treatment or;
- (c) is wearing any harness likely to cause pain or injury;

that official or that horse-keeper (as the case may be) shall forthwith make a report thereof to the manager or an under-manager.

(2) No horse with respect to which a report has been made in pursuance of the last preceding paragraph shall be worked at the mine until the manager or an under-manager so authorises.

Interpretation

16. (1) In these regulations the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘horse’ includes pony, mule and donkey;

‘horse-keeper’ has the meaning assigned thereto in regulation eight;

‘mine’ has the meaning assigned thereto in regulation one;

‘veterinary surgeon’ has the meaning assigned thereto in regulation three.

(2) The Interpretation Act, 1889 shall apply to the interpretation of these regulations as it applies to the interpretation of an Act of Parliament.

22. NOTIFICATION OF DANGEROUS OCCURRENCES*

(SECTION 117)

Order dated 22nd December, 1906 (S.R. & O. 1906, No. 934) made under Section 5 of the Notice of Accidents Act, 1906, and preserved by Section 191 (1) (c) of the Mines and Quarries Act, 1954.

Under this order the provisions of the said Act requiring notice of accidents in mines and quarries to be given to an inspector were extended to the following classes of occurrences, whether personal injury or disablement is caused or not—

all cases of ignition of gas or dust below ground other than ignitions of gas in a safety lamp;

all cases of fire below ground;

all cases of breakage of ropes, chains, or other gear by which men are lowered or raised;

all cases of overwinding cages while men are being lowered or raised;

all cases of inrush of water from old workings.

*See also note on Section 117, page 58.

23. THE MINES AND QUARRIES (REFERENCE) RULES, 1956

(S.I. 1956 No. 1784)

Made by the Minister under Section 170 of the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

Form and service of counter-notice

1. Every counter-notice served by a person (hereinafter referred to as an 'objector') under subsection (2) of section one hundred and seventy of the Act (being a counter-notice demanding a reference upon a notice served by an inspector on him) shall—

- (a) be in the form specified in the first schedule to these rules or as near thereto as circumstances will admit; and
- (b) be served in duplicate on the inspector who served the notice upon which a reference is demanded (that inspector being hereinafter referred to as 'the inspector') within the period of twenty-one days from the date of service of that notice;

and in these rules 'counter-notice' means a counter-notice which complies with the requirements of this rule.

Application for selection of referee

2. Every inspector on whom has been served a counter-notice shall, as soon as may be and in any event within the period of twenty-one days from the date of service thereof, apply to the nominated selector for the selection of a referee and forward with the said application a copy of that counter-notice and a copy of the notice upon which a reference is demanded.

Statement of grounds of objection

3. (1) Every objector shall serve in duplicate upon the inspector a statement specifying every ground of objection to the notice upon which a reference is demanded, being a relevant ground of objection for the purposes of subsection (4) of the said section one hundred and seventy of the Act, and the facts and contentions relied on in support of that ground (that statement being hereinafter referred to as 'the objection statement').

(2) Every objection statement shall be served upon the inspector within the period of twenty-one days from the date of service of the relevant notice or within such longer period (if any) as may be agreed or ordered under rule fourteen.

(3) In any case in which the inspector is of opinion that the service of an objection statement is unnecessary for the purposes of the reference he shall serve on the objector a notice to that effect and the preceding provisions of this rule shall not apply to that reference.

Reply to objection statement

4. (1) Every inspector upon whom in pursuance of paragraph (2) of rule three an objection statement has been served shall serve upon the objector a statement (hereinafter referred to as 'the reply') specifying the facts and contentions relied on in rebuttal of the objection statement.

(2) Every reply shall be served upon the objector as soon as may be after service of the relevant objection statement and in any event either within the period of twenty-one days from the date of that service or within such longer period (if any) as may be agreed or ordered under rule fourteen.

Appointment of referee and notification to parties to reference

5. In every case in which the nominated selector selects two or more persons to be referee on a reference he shall appoint one of them to preside over the reference.

6. Forthwith after the appointment of a referee on any reference the nominated selector shall notify the parties to that reference of the referee's name and address.

Furnishing of documents to the referee

7. Forthwith after—

(a) the service of a notice in pursuance of paragraph (3) of rule three or the service of the reply in pursuance of paragraph (2) of rule four; or

(b) receipt of the notification of the name and address of the referee;

(whichever of (a) and (b) is the later) the inspector shall send to the referee a copy of the notice served by him in pursuance of paragraph (3) of rule three or a copy of the objection statement and a copy of the reply, as the case may be.

Hearing of reference

8. (1) Without prejudice to the provisions of paragraph (a) of rule eleven, as soon as may be after rule seven has been complied with the referee shall determine a date, time and place for the hearing of the reference and notify the parties to the reference of the date, time and place so determined and may notify, or require any party to the reference to notify, in such manner as he thinks fit, the date, time and place so determined to any person appearing to him to be affected by the notice upon which a reference has been demanded or any association or body representative of any such person.

(2) Forthwith after any party to the reference, being the owner or manager of the relevant mine or the owner or a manager of the relevant quarry (as the case may be), has been notified in pursuance of paragraph (1) of this rule, that party shall take such steps as may be necessary to secure that notice of the date, time and place so notified is kept posted at that mine or quarry at all times at which persons are employed thereat during the period until the quashing or confirmation of the notice upon which a reference has been demanded, in such characters and in such positions as to be easily seen and read by the persons employed thereat, and in the form specified in the second schedule to these rules or as near thereto as circumstances will admit.

9. No objector shall (except in a case in which a notice under paragraph (3) of rule three has been served on him), on the hearing of a reference, be entitled without the consent of the referee to raise, or adduce evidence with respect to, any ground of objection to the relevant notice other than a ground of objection specified in the relevant objection statement.

10. In every case in which the nominated selector has selected two or more persons to be referee on a reference—

(a) every decision on the reference of a majority of those persons present and voting shall be the decision of the referee;

- (b) in any case in which on the reference the votes of those persons present and voting are equally divided, the person presiding over the reference shall have a second or casting vote.

Powers of the referee

11. The referee shall, for the purposes of any reference, have power—

- (a) to dispose of any outstanding matter on the reference and in particular any matter in any case in which any party to the reference has failed to comply with any of the preceding rules or in which any party to the reference fails to appear at the hearing;
- (b) to enter and inspect any mine or quarry affected by the relevant notice;
- (c) (so far as appears to him to be reasonable having regard to the desirability of quashing or confirming the relevant notice as soon as may be) to adjourn the reference from time to time and from place to place; and
- (d) subject to the provisions of the Act and of these rules, to regulate the procedure on the reference.

Payment of costs

12. The referee may make such orders as he thinks fit respecting the payment of the costs of the reference (including the payment of his remuneration and allowances).

Remuneration of the referee

13. The amount of the remuneration and allowances to be paid to a referee upon a reference shall be determined by the Minister with the approval of the Treasury.

Extensions of time

14. (1) In any case in which provision is made in these rules for such extension of any period of time as may be agreed or ordered under this rule, the period specified in that provision may, upon the application of any party to the reference, be extended—

- (a) by agreement in writing by the other party or parties (as the case may be) to the reference; or
- (b) in default of such agreement—

(i) (in any case in which application for the extension is made before the appointment of a referee) by order of the nominated selector;

(ii) (in any other case) by order of the referee.

(2) Every application for an extension of time shall be made in writing by the person seeking the extension to the person or persons empowered at the time of the making of that application to agree to or order that extension, and any such agreement or order may be reached or made although the application for the same is not made until after the expiration of the period of time in relation to which an extension is sought.

Interpretation

15. (1) In these rules the following expressions have the meanings hereby respectively assigned to them, that is to say—

‘the Act’ means the Mines and Quarries Act, 1954;

‘counter-notice’ has the meaning assigned thereto in rule one;

‘inspector’ has the meaning assigned thereto in rule one;

‘objection statement’ has the meaning assigned thereto in rule three;

‘objector’ has the meaning assigned thereto in rule one;

‘parties to the reference’ means, in relation to any reference, the inspector who served the relevant notice and the person or persons who served the relevant counter-notice or counter-notices (as the case may be);

‘referee’ means, in relation to any reference, the person or persons to whom a notice stands referred in pursuance of a selection or direction by the nominated selector under subsection (2) of section one hundred and seventy of the Act;

‘reference’ means a reference under section one hundred and seventy of the Act; and

‘reply’ has the meaning assigned thereto in rule four.

(2) Expressions to which meanings are assigned by the Act or by these rules shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these rules.

(3) The Interpretation Act, 1889 shall apply to the interpretation of these rules as it applies to the interpretation of an Act of Parliament.

Commencement and citation

16. These rules shall come into operation at the commencement of the Act and may be cited as the Mines and Quarries (References) Rules, 1956.

FIRST SCHEDULE Rule 1

MINES AND QUARRIES ACT, 1954.

THE MINES AND QUARRIES (REFERENCES) RULES, 1956.

COUNTER-NOTICE

DEMANDING A REFERENCE UPON A NOTICE.

IN THE MATTER OF

THE MINES AND QUARRIES

ACT, 1954, AND IN THE

MATTER of a question

BETWEEN (Name of objector).....Objector
and

(Name of inspector).....Inspector

To the Inspector

TAKE NOTICE that the above-named objector being { the owner
the manager } *
a manager }

*Delete as inapplicable.

of { mine quarry } *

in pursuance of subsection (2) of section one hundred and seventy of the Mines and Quarries Act, 1954, hereby demands a reference upon a notice relating to that { mine quarry } * served under.....†

upon him by the above-named inspector on the.....day of..... 19 , being a notice to which apply the provisions of Part XV of the said Act with respect to references upon notices.

The address for service of the objector is.....

Dated.....19 .

(Signed).....

SECOND SCHEDULE Rule 8

MINES AND QUARRIES ACT, 1954.

THE MINES AND QUARRIES (REFERENCES) RULES, 1956.

NOTICE

OF REFERENCE UPON A NOTICE SERVED BY AN INSPECTOR IN THE MATTER OF THE MINES AND QUARRIES

ACT, 1954, AND IN THE

MATTER of a question

BETWEEN (Name of objector).....Objector and

(Name of inspector).....Inspector

TAKE NOTICE—

(1) THAT the above-named objector, being { the owner the manager a manager } * of

..... { mine quarry } * in pursuance of subsection (2)

of section one hundred and seventy of the Mines and Quarries Act, 1954, has demanded a reference upon a notice relating to that { mine quarry } * served under

..... †upon him by the above-named inspector on the.....day of..... 19 , being a notice to which apply the provisions of Part XV of the said Act with respect to references upon notices;

*Delete as inapplicable.

†Insert number of the section of the Act or title of the regulations and number of the regulation (as the case may be) under which notice was served.

(2) THAT the name(s) and address(es) of the person(s) selected to be referee on the references { is }
are }

(3) THAT the referee has determined that the reference shall be heard on the day of, 19 .., at (insert time)
at (insert place)

*(4) THAT the objection statement and the reply thereto relating to the notice upon which a reference has been demanded may be inspected at
.....
.....

Dated 19 ..

(Signed)

TO ALL PERSONS AFFECTED BY THE ABOVE-MENTIONED NOTICE

24. THE MINES AND QUARRIES (DRAFT REGULATIONS) RULES, 1956

(S.I. 1956, No. 2018)

Made by the Minister under the Second Schedule (Part III, paragraph 22) to the Mines and Quarries Act, 1954, with effect from 1st January, 1957.

PART I

Proceedings preliminary to inquiries

1. As soon as may be after the appointment by the Lord Chancellor of a person or persons to hold an inquiry (such a person or persons being in these rules referred to as a 'tribunal') the tribunal shall publish or cause to be published in such manner as it thinks fit for the purpose of notifying persons likely to be affected by the draft regulations, and send or cause to be sent by post to the Minister and to every person who duly made an objection with respect to a provision of the draft regulations, a notice specifying—

(a) the name of every member of the tribunal and of any person appointed to preside over the inquiry (such a person being in these rules referred to as 'the president');

(b) an address to which all communications for the tribunal shall be sent.

2. (1) The tribunal may, if it thinks fit for the purpose of facilitating the just, expeditious and economical disposal of the inquiry, include in the notice published and sent under the last preceding rule or in a notice subsequently so published and sent notice of the date on which and the place and time at which there shall be held a meeting for the purposes hereinafter specified in this rule (such a meeting and any resumed meeting after an adjournment thereof being in these rules referred to as a 'meeting for directions').

*Omit paragraph in any case in which a notice has been served under paragraph (3) of rule 3.

(2) If a meeting for directions is so ordered, every person desiring to appear at the inquiry in pursuance of sub-paragraph (c) of paragraph eighteen of Part III of the Second Schedule to the Act shall at that meeting make application either in person or by counsel, solicitor or agent for the opinion of the tribunal or (if there are two or more members of the tribunal) of the president whether or not that person is affected by the relevant draft regulations and the opinion of the tribunal or the president (as the case may be) thereupon shall be recorded by the tribunal and announced to the applicant.

(3) Any person entitled to appear at an inquiry in pursuance of paragraph eighteen of Part III of the Second Schedule to the Act may, either in person or by counsel, solicitor or agent, make such representations to the tribunal at the relevant meeting for directions as he thinks fit relating to the directions to be given by the tribunal in pursuance of paragraph (4) of this rule.

(4) At any meeting for directions, the tribunal may give such directions as to the future course of the inquiry as appear best adapted to secure the purposes aforesaid and in particular, but without prejudice to the generality thereof—

- (a) the tribunal may direct that evidence of any fact or opinion shall be given at the inquiry in such manner as may be specified by the direction;
- (b) the tribunal may direct that any person entitled to appear at the inquiry who desires to produce thereat any plans, photographs, models, statistics or results of experiments shall, not later than ten days before the inquiry, afford to every other person so entitled an opportunity of inspecting those plans, photographs, models or documents or a copy thereof and of agreeing to the admission thereof at the inquiry without further proof;
- (c) the tribunal shall endeavour to secure that the persons entitled to appear at the inquiry make all admissions for the purposes of the inquiry and all agreements as to the conduct thereof which ought reasonably to be made by them;
- (d) the tribunal may give such directions as it thinks necessary or expedient as to the order in which objections or representations shall be considered at the inquiry and as to the order in which persons appearing at the inquiry shall be heard; and
- (e) the tribunal may direct the date on which and time at which the inquiry shall be held.

3. In any case in which a meeting for directions is not ordered by the tribunal, it shall publish or cause to be published in such manner as it thinks fit for the purpose of notifying persons likely to be affected by the draft regulations and send or cause to be sent by post to the Minister and to every person who duly made an objection with respect to a provision of the draft regulations, a notice specifying the date on which and time at which the inquiry shall be held.

PART II

Inquiries

4. At and for the purposes of every inquiry—

- (a) the tribunal may enter and inspect any premises occupied by any person entitled to appear at the inquiry, being premises which would be affected by the relevant draft regulations (if made);

- (b) the tribunal may vary or revoke any order made or direction given by it at the relevant meeting for directions and may (so far as appears to it to be appropriate) make any order or give any direction which it could have made or given at such a meeting;
- (c) the tribunal may (so far as appears to it to be reasonable having regard to the desirability of making a report to the Minister as soon as may be) adjourn the inquiry from time to time; and
- (d) subject to the provisions of the Act and of these rules, the tribunal may regulate the procedure at the inquiry.

5. No person shall at an inquiry be entitled without the consent of the tribunal—

- (a) to raise, or adduce evidence relating to, any ground of objection not specifically stated in an objection duly made with respect to a provision of the relevant draft regulations; or
- (b) to ask for, or adduce evidence relating to, any omission, addition or modification not asked for in such an objection.

6. In every case in which the Lord Chancellor has appointed a tribunal consisting of two or more persons—

- (a) every decision of a majority of those persons present and voting shall be the decision of the tribunal;
- (b) in any case in which the votes of those persons present and voting are equally divided, the president shall have a second or casting vote.

PART III

General

Interpretation

7. (1) In these rules the following expressions have the meanings hereby respectively assigned to them, that is to say—

- ‘the Act’ means the Mines and Quarries Act, 1954;
- ‘inquiry’ means an inquiry under Part III of the Second Schedule to the Act
- ‘meeting for directions’ has the meaning assigned thereto in rule two;
- ‘president’ has the meaning assigned thereto in rule one;
- ‘tribunal’ has the meaning assigned thereto in rule one.

(2) Expressions to which meanings are assigned by the Act or by these rules shall (unless the contrary intention appears) have the same meanings in any document issued under the provisions of these rules.

(3) The Interpretation Act, 1889, shall apply to the interpretation of these rules as it applies to the interpretation of an Act of Parliament.

Application to Scotland

8. Where any draft regulations referred for inquiry and report apply to Scotland only, for references in these rules to the Lord Chancellor there shall be substituted references to the Lord President of the Court of Session.

Commencement and citation

9. These rules shall come into operation at the commencement of the Act and may be cited as the Mines and Quarries (Draft Regulations) Rules, 1956.

PART C—STATUTORY CERTIFICATES OF QUALIFICATION

INTRODUCTORY NOTE

This Part of the volume is intended primarily for the information and guidance of mining teachers and prospective applicants for statutory certificates of qualification.

An effort has been made to ensure that each item is as informative as possible, but if further details are required about any particular point inquiry should be made to The Secretary, The Mining Qualifications Board, Ministry of Power, Thames House South, Millbank, London S.W.1.

General provisions about the grant, cancellation and suspension of certificates, and provisions governing the constitution of the Mining Qualifications Board, are contained in Part XII of the Act (pages 72 to 75).

1. CERTIFICATES OF COMPETENCY

(a) MINING EXAMINATIONS (CERTIFICATES OF COMPETENCY) RULES, 1952*

(NOTE.—The Rules below (which were made under Section 9 of the Coal Mines Act, 1911, as amended by the Coal Mines (Mining Qualifications Board) General Regulations, 1950, and are preserved by Section 191 (1) (b) of the Mines and Quarries Act, 1954) introduced a new system of three-stage examinations for certificates of competency. They will run concurrently with the existing examinations, which will continue at least until 1959. These latter remain unchanged except that the maximum number of marks allotted to individual subjects has been varied as described in the notes at the end of the rules.

The new examinations comprise a preliminary, intermediate and final stage. The preliminary and intermediate stages are common to both first and second-class examinations. The Mining Qualifications Board do not intend to examine in the preliminary stage for which any of the certificates listed in the first schedule will be acceptable. Neither is it expected that the Board will need to hold examinations for the intermediate stage since the holder of an ordinary national certificate in mining, or other superior qualification mentioned in Rule 7, will be automatically exempted. A candidate for the final stage, second class, will have to qualify at an examination in the subjects listed in the second part of the fourth schedule, but if he holds a higher national certificate in mining he will only be required to take the paper in mining law. A candidate for the final stage, first class, will have to qualify at an examination in the subjects listed in the third part of the fourth schedule, but the holder of a qualification mentioned in proviso (i) to Rule 9 will only be required to take the paper in mining law, and the holder of a qualification mentioned in proviso (ii) will only be required to take the papers in mining technology and mining law.)

PART I

1. An applicant for any certificate of competency under the Act must comply with—

- (a) the provisions of this Part of these rules; and
- (b) the provisions of Part II or Part III of these rules.

2. An applicant for a certificate of competency must produce to the Board with his application, the following documents—

*As amended by the Mining Examinations (Certificates of Competency) (Amendment) Rules, 1954.

- (a) a birth certificate, or other evidence of his age satisfactory to the Board;
- (b) two testimonials, on forms provided for the purpose by the Board, of his good character;
- (c) a certificate, granted within the last preceding five years, by a society or body approved* by the Minister for the purposes of Regulation 5 (1) of the Coal and Other Mines (First Aid) Regulations, 1956, that he is proficient in first aid;
- (d) a certificate concerning his ability to test for gas, and his hearing, being a certificate—
 - (i) granted before 1 *June*, 1952, under paragraph (b) or (c) of subsection (1) of Section 15 of the Coal Mines Act, 1911; or
 - (ii) granted under sub-paragraph (b) of Rule 6 of the Mining Examinations (Deputies) Rules, 1952† made by the Board;
- (e) particulars of his practical experience in mining referred to in Rule 3;
- (f) any one of the certificates specified in the first schedule to these rules:

Provided that paragraph (f) shall not apply to an applicant who—

- (i) (being an applicant under Part II of these rules) was born before 22nd *June*, 1918;
- (ii) is the holder of an ordinary national certificate in mining;
- (iii) is the holder of any degree or diploma specified in the second schedule to these rules;
- (iv) is an associate member by examination of the Institution of Mining Engineers; or
- (v) was educated outside the United Kingdom and satisfies the Board that his standard of general education is equivalent to the standard required to be attained under that paragraph.

3. (1) Subject to any reduction determined by the Board, an applicant for a certificate of competency must satisfy the Board that he has had not less than five years' practical experience in mining.

(2) The practical experience aforesaid must—

(a) be experience—

- (i) under the National Coal Board's Scheme of Directed Practical Training in Mining Engineering; or
- (ii) below ground in mining which includes the performance, immediate supervision or responsible control, during periods amounting in all to not less than two years, subject to any reduction determined by the Board, of—
 - the getting of minerals (by hand or mechanical methods) or work at the face directly connected with such getting; setting of supports or repairing; and stonework;

*For list of approved societies and bodies see page 279.

†These rules are preserved by Section 191 (1) (b) of the Act, page 93.

(b) be experience either wholly in one or more mines [of coal, stratified ironstone, shale or fireclay in Great Britain], or partly in one or more such mines and partly in one or more [such] mines outside [Great Britain] . . . with respect to which the Board are satisfied that it or they provided equivalent experience.

(c) . . .

(3) Any reduction of practical experience as aforesaid shall be such reduction in respect of any qualification or experience (including performance of national service) acquired by the applicant as the Board may determine having regard to any directions given to them by the Minister.

4. An applicant may be required by the Board to present himself for an interview upon any one or more subjects on which, for the purposes of any written examination held by the Board under Part II or Part III of these rules, he has submitted answers.

PART II

5. An applicant for a second-class certificate of competency under this Part of these rules must qualify after attaining the age of 21 years* at a written examination held by the Board on the subjects specified in the first part of the third schedule to these rules;

6. An applicant for a first-class certificate of competency under this Part of these rules must qualify after attaining the age of 21 years* at a written examination held by the Board on the subjects specified in the third part of the third schedule aforesaid;

PART III

7. An applicant for any certificate of competency under this Part of these rules must qualify at an intermediate written examination held by the Board on the subjects specified in the first part of the fourth schedule to these rules unless he is—

- (a) the holder of an ordinary national certificate in mining;
- (b) the holder of any degree or diploma specified in the second schedule to these rules; or
- (c) an associate member of the Institution of Mining Engineers, having passed such examinations of the Institution as the Board require.

8. An applicant for a second-class certificate of competency under this Part of these rules must qualify after attaining the age of 21 years at a final written examination held by the Board on the subjects specified in the second part of the fourth schedule aforesaid:

Provided that if any such applicant is—

- (a) the holder of a higher national certificate in mining;
- (b) the holder of any degree or diploma specified in the second schedule to these rules; or

*These rules are preserved by Section 191 (1)(b) of the Act, page 93.

(c) an associate member of the Institution of Mining Engineers, having passed such examinations of the Institution as the Board require; he shall only be required to qualify in the subject of mining law.

9. An applicant for a first-class certificate of competency under this Part of these rules must—

- (a) be the holder of a second-class certificate of competency obtained by virtue of his qualification under the last foregoing rule; and
- (b) qualify at a final written examination held by the Board on the subjects specified in the third part of the said fourth schedule:

*Provided that if any such applicant—

(i) is an associate member of the Institution of Mining Engineers, having passed such examinations of the Institution as the Board require, paragraph (a) shall not apply and he shall only be required to qualify in the subject of mining law;

(ii) is the holder of any degree or diploma specified in the second schedule to these rules, or has completed, after obtaining a higher national certificate in mining, a full time course of instruction of not less than one year approved by the Board and has passed an examination approved by them in relation thereto, paragraph (a) shall not apply and he shall only be required to qualify in the subjects of mining technology and mining law.

PART IV

10. The times and places at which examinations are to be held under these rules shall be published by the Board in the Ministry of Labour *Gazette* and in such other publications as the Board may from time to time think fit.

FIRST SCHEDULE (Rule 2 (f))

Certificates of Education

(1) (a) (i) A certificate that the applicant has passed the School Certificate examination of one of the following bodies—

The Oxford and Cambridge Schools Examination Board.

The Oxford Delegacy of Local Examinations.

The Cambridge Local Examinations Syndicate.

Durham University.

London University.

The Northern Universities Joint Matriculation Board.

Bristol University.

The Central Welsh Board.

The Welsh Joint Education Committee.

(ii) A statement of success granted to the applicant by any of the bodies aforesaid certifying that he had obtained a credit in a School Certificate examination held by them or a pass in a Higher School Certificate examination held by them in English, mathematics and one other subject.

*As amended by the Mining Examinations (Certificates of Competency) (Amendment) Rules, 1954.

(b) (i) A certificate that the applicant has passed one of the following examinations of the Scottish Education Department—

Day School Certificate (Higher) examination.

Leaving Certificate examination.

Senior Leaving Certificate examination.

(ii) A statement by the Scottish Education Department certifying that the applicant has satisfactorily completed a course of not less than three years at a junior or senior secondary school.

(iii) A statement by the Scottish Education Department that the applicant had at a Leaving or Senior Leaving Certificate examination attained a standard in English, mathematics and one other subject equivalent to that required to be attained at an examination referred to in sub-paragraph (b) of paragraph 3.

(2) A certificate or statement certifying that the applicant has passed the matriculation examination of any university in Great Britain or the preliminary examination of the Scottish Universities Entrance Board.

(3) (a) A certificate (or certificates) that the applicant has passed an examination for the General Certificate of Education at the ordinary level in English, mathematics and one other subject.

(b) A certificate (or certificates) that the applicant has passed an examination for the Scottish Leaving Certificate at the lower level in English, mathematics and one other subject.

(4) (a) A statement of success granted by any of the bodies aforesaid in respect of any one or two of the subjects mentioned in sub-paragraph (a) (ii) of paragraph 1 and a certificate (or certificates) granted in respect of any one or two of the same subjects mentioned in sub-paragraph (a) of paragraph 3 which together show that the applicant has attained a standard in all those subjects equivalent to that required to be attained under either of those sub-paragraphs.

(b) A statement by the Scottish Education Department in respect of any one or two of the subjects mentioned in sub-paragraph (b) (iii) of paragraph 1 and a certificate (or certificates) granted in respect of any one or two of the same subjects mentioned in sub-paragraph (b) of paragraph 3 which together show that the applicant has attained a standard in all those subjects equivalent to that required to be attained under either of those sub-paragraphs.

(5) A certificate that the applicant has passed an examination in the subjects of English, mathematics, drawing and science, being a certificate granted by any of the following bodies—

Northern Counties Technical Examinations Council.

Yorkshire Preliminary Mining Examinations Board.

Union of Lancashire and Cheshire Institutes.

East Midland Educational Union.

Union of Educational Institutions.

Kent County Examinations Board.

Welsh Joint Education Committee.

East of Scotland Joint Committee for Mining. Preliminary Examinations.

West of Scotland Joint Committee on the Organisation of Classes in Science and Technology.

SECOND SCHEDULE (Rules 2, 7, 8 & 9)

Degrees and Diplomas

<i>Name of Institution</i>	<i>Description of Degree, Diploma, etc.</i>
Benares Hindu University	Degree of B.Sc. in Mining Engineering.
Birmingham University	Degree of B.Sc. in Mining.
Durham University	Degree of B.Sc. in Applied Science (Mining). Honours Degree of B.Sc. in Mining Engineering. Diploma in Mining.
Edinburgh University	Degree of B.Sc. in Mining.
Glasgow University	Degree of B.Sc. in Mining Engineering. Certificate of Proficiency in Mining.
Heriot-Watt College, Edinburgh	Associateship in Mining.
Indian School of Mines, Dhanbad	Associateship in Mining Engineering.
Leeds University	Degree of B.Sc. in Mining. Degree of M.Sc. (Mining) for students who have already graduated in Engineering. Diploma in Mining.
London University	Degree of B.Sc. (Eng.) in Mining.
Manchester University	Degree of B.Sc. (Tech.) Certificate in Technology (Mining).
Nottingham University	Degree of B.Sc. in Mining. Certificate in Mining.
Oxford University and Birmingham University (jointly)	Diploma in Coal Mining.
Royal School of Mines, London	Associateship in Mining.
Royal Technical College, Glasgow	Associateship in Mining Engineering. Diploma in Mining Engineering.
Sheffield University	Diploma in Mining. Degree of Bachelor of Engineering, (Mining).
University of Wales	Degree of B.Sc. in Mining Engineering.
University College of South Wales and Monmouthshire	Diploma in Metalliferous Mining.
Wigan and District Mining and Technical College	Diploma in Mining.

THIRD SCHEDULE (Rules 5 & 6)

PART I

Second-Class Certificates

Methods of working.
Ventilation.
Explosions, underground fires and inundations.
Machinery.
Surveying and levelling.
Mining legislation.

PART II

Second-Class Certificates

(Mines of stratified ironstone)

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PART III

First-Class Certificates

Winning and working.
Theory and practice of ventilation.
Explosions, underground fires and inundations.
Machinery.
Surveying, levelling and drawing.
Mining legislation.

PART IV

First-Class Certificates

(Mines of stratified ironstone)

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FOURTH SCHEDULE (Rules 7, 8 & 9)

PART I

Intermediate Examination

Mathematics.
Physics and chemistry.
Mining technology.
Mechanical engineering.
Electrical engineering.
Drawing.

PART II

Final Examination (Second-Class Certificate)

Mining technology (two papers).
Colliery engineering.
Surveying.
Mining law.

PART III

Final Examination (First-Class Certificate)

Mining technology.
Geology.
Mechanical engineering.
Electrical engineering.
Surveying.
Mining law.

(b) SUPPLEMENTARY NOTES ON THE CERTIFICATES OF COMPETENCY RULES

1. The maximum marks will be 100 for each subject in the first-class written examinations referred to in Rule 6 and Rule 9, and in the second-class written examinations referred to in Rule 8.

The maximum marks for each subject in the second-class written examinations referred to in Rule 5 will be:—

Methods of working	200
Ventilation	200
Explosions, underground fires and inundations	150
Machinery	150
Surveying and levelling	100
Mining legislation	100

An applicant for the old-style six-subject written examination qualifies if he obtains 40 per cent. or more for each subject and 50 per cent. or more for the total number of subjects taken by him. An applicant who fails to obtain 40 per cent. for one subject, or two subjects, but who nevertheless obtains 60 per cent. or more for the total number of subjects taken by him, will be eligible to be re-examined at the next succeeding written examination in the respective subject or subjects in which he so failed, and if he then qualifies in such subject or subjects he will be deemed to have qualified at a written examination. As part of the examination, the Examining Board may require any applicant to present himself for an interview related to any one or more subjects on which he has submitted written answers.

An applicant for the three-stage examination qualifies if he obtains 50 per cent. or more for each subject. An applicant who fails to obtain 50 per cent. for one subject but who nevertheless obtains an overall mark of 50 per cent. for mining technology and mining law will be eligible for re-examination at the next succeeding examination in the subject in which he failed.

2. The syllabus for the subjects mentioned in the third schedule to the rules is as follows—

PART I

SECOND-CLASS CERTIFICATE EXAMINATION

Methods of working. Systems of laying out and working under varying conditions, of coal and other stratified deposits; the application of machinery to mining; methods of supporting roof and sides; shot firing.

Ventilation. The properties, identification and practical estimation of gases met with in mines; natural ventilation fans and other ventilators; the distribution

and control of the air underground; stoppings and air crossings; measurement of air currents; construction, use and testing of safety lamps.

Explosions, underground fires and inundations (causes and prevention). Gas; coal dust; spontaneous heating; rescue operations, apparatus and organisation; precautions in approaching disused workings and mining under water-logged strata; recovery of mines after explosions, fires and inundations.

Machinery. Machinery and plant in common use at a colliery, including the use of electricity, and with special reference to safety.

Surveying and levelling. Elementary surveying and levelling; arithmetic (calculation of areas and the volumes of simple solids).

Mining legislation. Legislation relating to safety and health; general regulations and orders; writing of reports.

PART II

SECOND-CLASS CERTIFICATE EXAMINATION

(*Mines of stratified ironstone*)

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PART III

FIRST-CLASS CERTIFICATE EXAMINATION

Winning and working. The geology of coal and other stratified deposits; boring and sinking; systems of laying out and working under varying conditions; the application of machinery to mining; methods of supporting roof and sides; blasting and general knowledge of explosives and other means of getting minerals.

Theory and Practice of Ventilation. The properties, identification and practical estimation of gases met with in mines; sources, effects and control of heat in mines; natural ventilation fans and other ventilators; the distribution and control of the air underground; stoppings and air crossings; construction, use and testing of safety lamps.

Explosions, underground fires and inundations (causes and prevention). Gas; coal dust; spontaneous heating; rescue operations, apparatus and organisation; recovery of mines after explosions, fires and inundations; precautions in approaching disused workings and mining under water-logged strata against water, old workings, or gas.

Machinery. For winding, hauling, pumping, mechanical coal-cutting and conveying, etc.; generation and transmission of power (mechanical, steam, compressed air, hydraulic, electrical); strength of materials.

Surveying, levelling and drawing. Magnetic declination; loose and fast needle dialling; calculation of areas and volumes; contour lines and levelling; traversing with the theodolite underground and on the surface; connecting of surface and underground surveys; triangulations; mine plans and sections; the use, care and testing of instruments.

(Each applicant must, before the date of the written examination, send to the Secretary a plan of a mine survey and a section prepared from an underground levelling made and drawn by himself with the original plottings and the notes from which the plottings have been made. It is recommended that plans should

be drawn on the scale of 1 : 2500 and all levels should be related to a datum 10,000 feet below Ordnance Datum. The dimensions of the plan should not normally exceed 2 feet by 1 foot 6 inches.)

Mining legislation. Legislation relating to safety and health; general regulations and orders; writing of reports.

PART IV

FIRST-CLASS CERTIFICATE EXAMINATION

(Mines of stratified ironstone)

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3. The syllabus for the subjects mentioned in the fourth schedule to the rules is as follows :

PART I

INTERMEDIATE EXAMINATION

Mathematics

Algebra. Simple, simultaneous and quadratic equations with practical applications; arithmetical and geometrical progressions; indices, logarithms and slide rule.

Graphical work. Plotting of algebraic functions; maximum and minimum values; determination of simple laws; rate of increase; simple differentiation.

Mensuration. The mensuration of plane figures and of the regular solids; irregular figures; Simpson's and other rules for areas and volumes.

Trigonometry. Trigonometric ratios, solution of triangles; sine and cosine rules and half angle formulae; plotting trigonometric functions; functions of compound angles; application to problems.

Physics and Chemistry

Physics. Properties of matter; density; hydrostatics; fluid pressure; manometers and hydrometers; atmospheric pressure; the barometer, siphon and pump; Boyle's Law and its application in mining; diffusion of gases; Graham's Law.

Heat. Thermometry; expansion of solids, liquids and gases; Charles' Law and its application; heat transfer; heat units; specific heat; change of state; latent heat of fusion and evaporation; humidity and hygrometry; applications.

Light. Propagation in straight lines; shadows; reflection; refraction in plates, prisms and lenses; application to the telescope; nature of light, the spectrum; measurement of light; foot-candle, candle-power, lumen; photometry.

Magnetism. The magnetisation of iron; the earth's magnetic field; declination and dip; magnetic polarity; the compass needle; surveying instruments using compass needles; magnetic fields of bar and other magnets and combinations of them; magnetic shielding.

Chemistry. Chemical and physical change; elements, compounds and mixtures; chemical reaction; atomic and molecular weights; simple treatment of the laws of chemical combination; equations; the atmosphere, its composition; the mine

atmosphere; oxidation combustion and respiration; carbon compounds; chemical, physical and physiological properties of carbon dioxide, carbon monoxide and methane; properties of flame; gas caps; sulphur compounds; hydrogen sulphide; the common acids; standard solutions, titrations; simple acidimetry and alkalinity; hardness of water; water softening; principles of mine air analysis; testing of mine dusts.

Mining Technology

Geology. The formation and occurrence of coal; lateral variations of seams; faults and folds.

Winning and working. An account of the methods of entry to coal seams and general methods of working, excluding special methods; temporary and permanent support of the working face and roadways; packing; use of steel and timber; withdrawal of supports; safety precautions to be adopted; roof control and subsidence; breaking ground; use of explosives and their alternatives; shot firing equipment and procedure.

Ventilation and lighting. Production of air current; natural and artificial ventilation; introduction to the laws of ventilation; distribution of air in mines; measuring and recording of mine ventilation; general precautions against dust, fires and explosions; flame and electric hand lamps; gas detectors.

Haulage, winding and pumping. Systems of transport on mine roadways and at the face, a brief account of winding appliances, types of pumping plant.

Mechanical Engineering

Mechanics. Force and its measurement; vectorial representation; triangle, parallelogram and polygon of forces; resolution of forces, the inclined plane, moments and their applications; friction coefficient; centres of gravity; stress; strain, Hooke's Law, Young's Modulus; work and power; lifting and other machines; friction; velocity ratio, mechanical advantage and mechanical efficiency; transmission of power by belts, gears and ropes.

Dynamics. Velocity and acceleration; laws of linear motion; relation between force, mass and acceleration; momentum, impulse; kinetic energy; hoisting and traction problems in mining.

Materials. Behaviour in tension, compression and shear; simple treatment of torsion and bending; testing of materials, factor of safety; heat treatment; ferrous and non-ferrous metals used in mines; common engineering materials; their properties and the form in which they are available.

Hydraulics. Pressure on surfaces; fluids in motion; total energy; Bernoulli's Theorem; flow through pipes, orifices and over weirs.

Steam and other engines. Principles of combustion; calorific value of fuels; properties of steam; total heat of steam; steam tables and their use; outline of steam engine plant; the steam engine; the mean effective pressure and indicated horse-power; steam consumption; the principle and operation of internal combustion engines; simple treatment of the principles involved in the production and utilisation of compressed air; relationship between mechanical, electrical and heat units of energy; engine tests.

Electrical Engineering

Effects of an electric current; simple ammeters; the electric circuit; e.m.f., resistance and potential difference; the Volt and Ohm; simple voltmeters and standard resistance; Ohm's Law; series and parallel circuits; electric power; the Watt; the Joule; heating by electric current; Joule's equivalent; examples of electric heating; electric wires and cables; insulation and protection; measurement of resistance by voltmeter and ammeter, by comparative fall of potential and by Wheatstone Bridge; the potentiometer; primary and secondary cells; commercial types of primary cells; lead-acid and nickel-alkali accumulators; capacity of secondary cells; charging and maintenance; electrolytic effect of current; electrolytic corrosion; electro-deposition.

Magnetic effect of current; magnetic field of straight wire, ring and solenoid; effect of iron in the magnetic field of a coil; qualitative idea of magnetic circuit with examples; magnetisation curves for iron and steel; electro magnetic induction of e.m.f.; Faraday's experiments and laws; application in the generator and the magneto exploder; development of the simple d.c. generator; function of commutator; the force on a current carrying conductor in a magnetic field; application in the d.c. motor; power conversion in d.c. motor and generator; relationship between watts and h.p.; losses and their conversion to heat; efficiency of machines; idea of a rating limited by temperature rise; the excitation of d.c. machines; shunt, series and compound windings; qualitative treatment of the generator and motor characteristics; general introduction to the principles of alternating current.

Types of ammeters, voltmeters and their uses; shunts and multiplier resistances; bells and bell circuit; sparking at contacts of bell and other circuits; signalling and lighting circuits in mines.

Drawing

Care and use of drawing instruments and scales; geometrical constructions and their application; orthographic projection; projection conventions; first and third angle projections; projection of simple solids; sections; sketches and working drawings of simple mining appliances; isometric and oblique views.

PART II

FINAL EXAMINATION SECOND-CLASS CERTIFICATE

Mining Technology Paper I

Geology. Classification, composition and texture of rocks; formation and occurrence of sedimentary, metamorphic and igneous rocks; denudation, weathering transport and deposition; structural features due to denudation and earth movement; faulting, folding, unconformities, intrusions; relative age of rocks; principles of stratigraphy; characteristic fossils and their uses; an outline of the geological systems with a detailed study of the carboniferous system in Britain and the formation and occurrence of coal.

Boring and sinking. Percussive and rotary methods of boring from the surface; the number and position of shafts; surface arrangements; sinkings by ordinary methods; temporary and permanent linings; breaking ground; drainage ventilation and lighting of sinkings; sinking staple pits.

Methods of working. Opening out from shafts; pit bottom arrangements; shaft pillars; more detailed consideration of methods of working under different conditions and including intensive mechanised methods; cross measure drifts; principles of roof control and their application; solid and strip packing; various methods of supporting roadways from the face to the pit bottom; repairing and enlarging roadways; dust prevention.

Explosives and shot firing. Types of explosives for use in mines; composition, classification and characteristics; factors determining choice of explosives; detonators (types and uses; instantaneous and delay action); fuses; shot firing exploders; shot firing cables; principles of shot firing; drilling and placing of shot holes; charging and stemming; simple and multi-shot systems; mis-fires; smoke and gaseous products; accidents and their prevention; storage, handling and recording; substitutes for explosives.

Mining Technology Paper II

Ventilation and lighting. Ventilation standards as prescribed by legislation; regulations relating to gas detection and air analysis; gas detectors; sources of heat in mines; physiological effect of gases, dust, heat and humidity; factors affecting quantity of air required for ventilation; production of ventilating pressure by natural and mechanical means; types of fan; reversal arrangements; fan drift and up cast shaft; distribution of the air current throughout the mine; splitting; regulators; ventilation of drifts and headings; exercises in showing ventilation systems on plans; resistance to flow of air; experimental determination of laws; methods of expressing resistance; units, equivalent orifice; a brief consideration of ventilation surveys and their purpose; modern developments in mine lighting at the face and on roadways; photometry and the general problems of illumination in mines.

Explosions, fires and inundations. Accidental fires on the surface and underground; their causes and prevention; the fire fighting organisation at the mine; spontaneous combustion; cause and detection of heatings; value of systematic air analysis; methods of dealing with fires and heatings; taking samples from behind stoppings; re-opening of sealed-off workings; fire-damp and coal dust explosions; their causes and prevention; detection of carbon monoxide; self-contained portable breathing apparatus; details of the construction and use of compressed oxygen and liquid air types; gas masks, smoke helmets and equalisers; oxygen reviving apparatus; rescue and first-aid rooms and their equipment; general organisation of rescue and recovery work; water dangers in mines; workings under accumulation of fluid matter; proving of cover; precautions necessary in approaching old workings; boring apparatus and its use; draining and sealing; construction of underground dams.

Colliery Engineering

Mechanical engineering

Heat engines. General arrangement of steam power plant at collieries; brief description of boilers for colliery use; seatings and fittings; total heat of steam; dryness fraction; steam pipe lines: provision for expansion and drainage; the steam engine and auxiliary appliances; efficiency of steam plant; principles of internal combustion engines; diesel locomotives; testing.

Compressed air. Gas laws : isothermal and adiabatic expansion and compression, and the appropriate relationships between P.V. and T.; outline of construction and operation of reciprocating and turbo compressors; advantages of multistage compressors; intercoolers; receivers; pipe lines; efficiency and economy in use.

Hydraulics and pumping plant. Streamline and turbulent flow; Bernoulli's Theorem and its application; general principles of reciprocating and rotary pumps; description of various types; applications; pumping problems; pipes and pipe lines; typical plant layout.

Materials of construction. Common engineering materials; properties and testing; special steels in mining use; general principles of heat treatment and its application to mining appliances; properties of steel wire used in rope construction; wire ropes; types and construction; examination and testing; strength of ropes and chains.

Winding. General outline of winding methods; their relative merits and applications; the driving unit; winding drums, brakes, over-winders and other safety devices; ropes and cappings, guides, cages, skips and fittings, detaching hooks; headgear pulleys; shaft equipment; system for loading and unloading cages and skips; regulations relating to winding.

Underground transport. Haulage methods and machinery; rope haulage; conveyors; locomotive haulage; types and applications; mechanics of haulage, mine cars; transport of men; tracks, curves and gradients; regulations relating to haulage.

Face machinery. Types, construction and application of conveyors; coal-cutting and loading machinery; loaders for coal and stone; cutter-loaders and machines for continuous mining; drilling machines and pneumatic picks; types, construction and application; drilling bits, rods and drilling rigs.

Electrical engineering

Alternating current; frequency; peak, mean and r.m.s. values; the effect of a.c. in a coil; e.m.f. of self induction; inductance, impedance, angle of lag of current; vector addition of alternating voltages and currents; power and power factor; the wattmeter; the single-phase transformer; magnetising current and no-load loss; relationship between voltage ratio and turns ratio; effect of secondary load on the primary current; ampere-turns ratio; power-factor; three-phase supplies; simple treatment of generation of three-phase e.m.f.; star connection; three-phase 4-wire system; connection of single-phase (e.g. lighting) loads; delta connection; power in a.c. circuits; the induction motor; production of rotating field; relation between speed of field, frequency and number of poles; production of torque in a squirrel-cage rotor; simple explanation of how torque depends on field, current and angle of lag of current and how this accounts for the falling-off of torque at low speeds.

Transmission. Types of cables used in mines; insulating materials and armouring; installation and support in shafts and roadways; joint boxes; earthing and bonding; switchgear; protective devices against overload, no volt and leakage; flexible cables for drills, cutters and conveyors; plugs and sockets; elementary principles of remote control; simple circuit diagrams for power, lighting and signalling.

Utilisation. Direct and alternating current motors; construction, characteristics and applications; starting, speed control and safety devices; applications to haulage, pumping and ventilation; running and maintenance.

Electrical dangers in mining. Special methods for the protection of power, lighting and signalling circuit; flameproof apparatus; intrinsic safety; earthing and the earthing system.

Surveying

Linear measurements. Use of tapes and chains; ranging and measuring lines; obstacles; accuracy in linear measurements.

Surveying. Chain surveys; magnetic compass and miner's dial; declination and variation; loose and fixed needle surveying; booking and plotting surveys; use of co-ordinates; construction and care of plans.

Levelling. The straight edge and spirit level; the surveyor's level and staff; levelling equipment; booking and checking levels; plotting sections; contours and contouring; regular and irregular areas and volumes; setting out curves by simple methods; setting out and maintaining roads at specified bearings and inclinations.

The theodolite. Its general construction and use in mine surveying; dip and strike problems, cross measure drifts; intersection of faults and seams; outline description of methods of correlation of underground and surface surveys; graphical exercises on location of outcrops, the relative position of faults and seams and general drift problems.

Mining Law

Statutory requirements (including regulations and orders) relating to safety, health and conditions of employment in mines of coal, stratified ironstone, shale and fireclay. Historical development of these requirements. Writing of reports.

PART III

FINAL EXAMINATION (FIRST-CLASS CERTIFICATE)

Mining Technology

Boring. Modern methods to prove seams; study of geological evidence and of boring records.

Sinking. Type, location, size and sinking of vertical and inclined shafts by various methods.

Surface arrangements. Lay-out and location of power plant, sidings, winders, fans, coal preparation plant, workshops, baths, lamproom, and other essential surface buildings.

Winding. Decking arrangements at the surface and underground; factors affecting the choice of the winding system; the selection of the method; cages and skips; winding from different levels.

Planning the underground workings. The selection of the system of mining with due regard to the geological conditions, sequence of extractions of schemes, ventilation and methods of support; the design and lay-out of the pit bottom; the design, distribution and support of main roads.

Transport arrangements. The selection and organisation of methods for the transport of coal and of supplies; the application of rope, conveyor, and locomotive haulage systems; man-riding haulages.

Methods of working. The lay-out and organisation of the districts; use of machinery at and near the working face; the application of mechanised methods in the driving of level and inclined drifts.

Strata control and support. Principles of roof control; shaft pillars; prevention of surface damage; shaft linings, roadway supports, face supports; hand and power stowing.

Mine ventilation. Types and characteristics of mine fans; the combined effect of the fan and natural ventilation; ventilation surveys, quantity and pressure determinations; booster and auxiliary fans; air analysis and its application to ventilation control; the testing and estimation of airborne dust; methods of reducing the dust hazard; the effects of temperature and humidity in mines.

Coal preparation. Screening and crushing plant; modern methods of coal cleaning; float and sink tests; washability curves; selection of suitable type of coal preparation plant; problems of de-dusting and de-watering; flow sheets and diagrams.

Safety and health. Causes of accidents, accident rates; accident prevention; the organisation at the colliery to deal with accidents and dangerous occurrences; rescue equipment and organisation; occupational diseases, their causes and prevention.

Geology

A study of minerals and rocks including the identification of hand specimens and the use of the petrological microscope; economic geology of stratified deposits; principles of stratigraphy; fundamental laws; classification of stratified rocks; fossils and their use in the correlation of sedimentary rocks and coal seams; coal measure fossils; flora and fauna; coal measures, conditions of deposition, rhythmic nature of deposits; characteristics of coal measure rocks; the origin and formation of coal seams; correlation of seams.

Outline of the geological systems and formations; their distribution in Great Britain and economic importance; the carboniferous system; the effect on coalfield geology of earth movements; visible and concealed coalfields of Great Britain; their location and general structure; superficial and alluvial deposits; their occurrence and effect on mining operations; relation of superficial deposits, glacial deposits, 'solid' rocks and geological structures to the occurrence of water and to mining operations generally.

Geological mapping. The representation of geological structures on a plan; plotting of outcrops; study of geological maps; plotting sections.

Mechanical Engineering

Applied mechanics. Force, mass, work, energy, power; force diagrams for simple framed structures; the link polygon; beams; bending moment and shearing force diagrams; stresses due to bending; moment of resistance; section moduli; torque in shafts, stresses due to torsion; stresses in thin shells; velocity and acceleration of a point moving in a circular path and with uniform speed; simple

harmonic motion; relative velocity; velocity and acceleration diagrams of simple mechanisms; angular velocity and acceleration; impulse, momentum, torque; moment of momentum; moment of inertia and radius of gyration; centrifugal force; conservation of energy and of momentum; brakes and dynamometers.

Applied heat. First law of thermodynamics; mechanical equivalent of heat; Boyle's law; Charles' Law; characteristic equation of a gas; total heat and internal energy; specific heats of gases; isothermal and adiabatic changes; second law of thermodynamics; indicator diagrams; properties of steam and use of steam tables; the Rankine cycle; adiabatic heat drop; ideal efficiency and efficiency ratio; indicated h.p.; brake h.p.; mechanical efficiency; calculation of cylinder dimensions of simple and compound steam engines; engine tests; mixture of gases and vapours; internal combustion engines with special reference to the diesel engine and the gas turbine.

Colliery plant. Boiler plant for collieries; comparison of types; auxiliary plant; fuels, the principles of combustion; calorific values; heat losses and efficiency of boiler plant; types of steam engines used at collieries; steam winders, valve and control gear; torque, power and velocity diagrams; steam turbines, types, outline of operation and control gear; steam accumulators and other auxiliary equipment; air compressions plant; reciprocating and turbo-compressors; accessories; transmission and utilisation of compressed air; types of locomotives for use in mines.

Modern developments in the design and use of machinery for surface and underground work.

Electrical Engineering

Voltage and current relations in single-phase and three-phase a.c. circuits.

Inductance, capacitance, impedance; vector representation; power and power factor in three-phase circuits and their measurement; power factor correction.

Voltage drop and power loss in d.c. and three-phase a.c. circuits; electric stress in cables; construction for high voltages; rectification; the contact rectifier; circuits and uses; the thermionic valve and its use as a rectifier; smoothing circuits; the mercury arc rectifier.

Three-phase transformation; the three-phase transformer; uses of star and delta connections.

Principles of synchronous and induction motors; starting methods and performance; general outline of rotary converter.

Generation. Outline of alternators and their operation; load factor; machines in parallel; protection and control gear; earthing and leakage protection.

Transmission. Transformers, substations and equipment; feeders, shaft cables; underground substations; underground supply systems; protection of circuits; flexible cables.

Applications. Synchronous and induction motor, rating tests and characteristics; speed control; suitability of various types for mining machinery; electric winders in common use; Ward Leonard and Ilgner sets; control gear; remote control systems; protective system for coal face; electric drills and equipment.

Surveying

Measurement of distance. The use of chains and steel tapes; accuracy of linear measurements.

Surveying with miner's dial. Manipulation, adjustment and use of various types of dials; magnetic declination.

The theodolite. Construction, use, manipulation and testing of the theodolite; surface and underground, traversing with the theodolite; adjustment of the closing error in a traverse.

Triangulation. General description of the principles and practice of triangulation; brief description of the national grid and the correlation of mine surveys to the grid; plotting surveys by protractor and rectangular co-ordinates.

Levelling. Use and adjustment of the surveyor's level, levelling staves and rods; plotting of profiles; precise levelling with special instruments and methods; methods of booking and reducing; effect of earth's curvature and refraction in levelling over long distances; principles of tacheometric surveying and levelling; special methods of underground levelling; underground bench marks; trigonometrical levelling.

Measurement of areas and volumes. Computations, use of planimeter and computing scale; measurements of excavations, embankments and spoilheaps, etc.

Mining subsidence. Its effects and methods of recording.

Correlation of underground and surface survey. Plumb-wires in one vertical shaft and in two vertical shafts; traversing inclined shafts and various combinations; correlation by precise magnetic methods.

Underground setting-out. Establishment of fixed survey stations; setting-out a point having given co-ordinates; giving and maintaining direction and gradient for inclined shafts, slopes and levels; consideration of the accuracy required for any given work; ranging curves for haulage roads, survey problems on cross-measure drifts and faults.

Maps and plans. Construction and preservation of mine plans; standards of accuracy; large scale Ordnance maps.

Mining Law

Statutory requirements (including regulations and orders) relating to safety, health and conditions of employment in mines under the Mines and Quarries Act. Historical development of these requirements. Writing of reports.

(c) PRACTICAL EXPERIENCE REQUIRED BY APPLICANTS FOR CERTIFICATES OF COMPETENCY: NOTES ISSUED BY THE MINING QUALIFICATIONS BOARD

(Note.—These notes are subject to amendment from time to time as occasion demands. Separate copies can be obtained by interested persons from the Secretary to the Board.)

1. Applicants for first or second class certificates must normally have had not less than five years' practical experience in mining.

Rule 3 on page 298 should be studied carefully.

2. The Board is responsible for determining what, if any, reduction can be allowed in the required five years' practical experience; but for the guidance of candidates examples of the kind of experience which the Board would be prepared to consider in deciding what reduction could be allowed in the case of a particular candidate having regard to the extent and variety of his experience are given below—

- (a) the period of five years' practical experience referred to in Rule 3 (1) will be reduced to three years for a candidate holding an approved degree or diploma.
- (b) the period of two years' experience referred to in Rule 3 (2) (a) (ii) will be reduced to one year and six calendar months for a candidate holding an approved degree or diploma.

The approved degrees and diplomas are listed in the second schedule to the rules (page 302).

- (c) Practical experience under the National Coal Board's Scheme of Directed Practical Training for Mining Engineers will be accepted for the purposes of Rule 3.
- (d) Practical experience, for a period not exceeding six months, obtained in engineering workshops either underground or on the surface which are definitely associated with mining machinery may, at the discretion of the Board, be accepted as part of the five years' practical experience referred to in Rule 3 (1) but not as part of the experience required in Rule 3 (2) (a) (ii) nor as part of the reduced period required of persons holding approved degrees or diplomas.
- (e) The Board will be prepared to take into consideration for the purposes of Rule 3 (1) experience of any kind of mining or tunnelling work below ground which may appear to be relevant.

3. Applicants are recommended to obtain a varied experience in mining but in order to comply with Rule 3 (2) (a) (ii) they *must* normally obtain the prescribed experience in the getting of minerals or work directly connected therewith at the face, and in setting of supports, or repairing, and stonework. It is hoped that it will be possible in future for employers to see that their employees, who are studying with a view to taking certificates of competency examinations, have an opportunity of obtaining the underground experience of all three types referred to in this subparagraph: they will be prepared, however, for the present to accept applications from candidates who have not had an opportunity to obtain such experience provided that an adequate proportion of the two years' underground experience has been spent in the getting of minerals or work at the face directly connected with such getting.

4. For the purposes of Rule 3 (2) (a) (ii)—

- (a) The following duties rank as experience of getting minerals or of work directly connected therewith at the face—

- (i) coal hewer or other face worker; work on coal cutting or conveyor faces;

- (ii) stallman or contractor;

- (iii) shot firer (if duly qualified to act as such);

(iv) deputy (if complying with Part IV of the Coal and Other Mines (Managers and Officials) Regulations, 1956);

(v) overman (if complying with Part III of the Coal and Other Mines (Managers and Officials) Regulations, 1956).

(b) Experience in the following three categories may be obtained either at the working face or elsewhere in a mine—

(i) stonework includes the driving of roads in stone, ripping or brushing, and taking down 'top' or taking up 'bottom';

(ii) setting of supports includes the withdrawal of supports from the goaf, waste or gob or from disused roadways;

(iii) repairing includes the work necessary to keep the roads and working places in a safe and workable condition.

(c) A specific minimum period to be spent in each class of work has not been imposed, because the precise character of the whole of an applicant's practical experience in mining is taken into consideration by the Board at the appropriate time. It may be assumed, however, that in no circumstances would less than six months' practical experience involving full shifts at the face, either in getting minerals or in work directly connected with such getting, be acceptable to the Board, and that the recognition of such a limited period would depend upon the character and period of the remainder of the mining duties performed.

(d) In explanation of the term 'responsible control' used in Rule 3 (2) (a) (ii), the Board desire to intimate that the control need not necessarily be in a statutory post, but it must be real responsibility involving the actual control and direction of the work prescribed. Thus an applicant who conveys instructions from a superior official for certain work to be carried out would not be regarded as having exercised responsible control unless he actually gives the directions for the work and is personally responsible for its adequate completion. Statements respecting mining experience obtained in indefinite positions such as 'assistant manager' or 'assistant overman' should be supported by explanations of the precise duties performed and of the degree of responsibility exercised. The position held by the applicant under the Mines and Quarries Act, 1954 (or under the general regulations), should also be stated by the applicant in Form 9 and by his manager in Form 11.

5. The following kinds of experience will be acceptable, to an amount determinable by the Board, partly for the purposes of Rule 3 (1) and partly for the purposes of Rule 3 (2) (a) (ii)—

(a) Full time employment in the application of water infusion or other dust suppression methods in and about the working face; but in no case will more than 6 months of such experience count for the purposes of Rule 3 (2) (a) (ii). (For dust sampling see paragraph 6 (h) below.)

(b) Full time employment in the taking of samples of mine air at or near the working face; but in no case will more than 3 months of such experience count for the purposes of Rule 3 (2) (a) (ii).

6. Time spent in the following mining duties will be acceptable for the purposes of Rule 3 (1) but *not* for the purposes of Rule 3 (2) (a) (ii); as stated in paragraph 3 applicants are recommended to obtain a varied experience—

- (a) Travelling the pit in the company of an official;
- (b) haulage worker;
- (c) surveyor, assistant surveyor or linesman;
- (d) bratticeman;
- (e) sinker;
- (f) onsetter;
- (g) measuring ventilation and examining airways;
- (h) taking samples of road dust and of mine air in main airways;
- (i) examining and reporting on compressed air mains or electrical distribution system;
- (j) other forms of work performed underground at the discretion of the Board.

7. Applicants should note (a) that evidence of underground mining duties which have not been specified in paragraphs 4, 5 and 6 above will not be excluded from consideration by the Board at the appropriate time. A decision as to an applicant's eligibility is only given after receipt of a formal application to attend a particular examination.

8. *The Board will not take into account any experience expected to be obtained after the closing date for the receipt of applications.*

9. When submitting a formal application, particulars of the whole of an applicant's practical mining experience should be specified, in chronological order, in Form 9. *Experience will not be considered by the Board unless it is properly certified: special forms provided by the National Coal Board for Directed Practical Training candidates will be accepted in lieu of or in addition to Form 9.* The experience detailed in Form 9, should be verified by the manager or managers in Form 11. In the case of National Coal Board employees, Form 9 will be forwarded through the Board's organisation and in no circumstances be returned to the applicant.

10. An applicant who claims mining experience obtained in mines abroad should insert particulars in Form 9, and should forward original testimonials giving details of such experience.

(d) FEES FOR EXAMINATIONS AND COPIES OF CERTIFICATES

	First Class	Second Class
(i) For examination	£5	£2 10s.
(ii) For re-examination in one or more subjects	£1 10s.	15s.
(iii) Copy of certificate of competency	7s. 6d.	7s. 6d.

2. SURVEYORS' CERTIFICATES

(a) MINING EXAMINATIONS (SURVEYORS) RULES, 1952

(NOTE.—The Rules below were made under Section 9 of the Coal Mines Act, 1911, as amended by the Coal Mines (Surveyors and Plans) General Regulations, 1952, and are preserved by Section 191 (1) (b) of the Mines and Quarries Act, 1954. Part I read with Part II provides for the continuation of the present examination:

read with Part III it introduces a new examination divided into three stages. The latter will run concurrently with the existing examinations which remain unchanged and will continue until 1959 at least.

The new examinations comprise a preliminary, intermediate and final stage. Exemption from all three stages will be granted to a candidate who has either reached such standard as may be required by the Board in the Higher National Certificate in mine surveying or passed the Intermediate Examination of the Royal Institution of Chartered Surveyors, in the Mining Surveying Section thereof.

All candidates will be required to pass the Board's oral and practical examination.)

PART I

1. An applicant for a surveyor's certificate under the Coal and Other Mines (Surveyors and Plans) Regulations, 1956 (in these rules referred to as 'an applicant') must comply with—

- (a) the provisions of this Part of these rules; and
- (b) the provisions of Part II or Part III of these rules.

2. An applicant must produce to the Board with his application, the following documents—

- (a) a birth certificate, or other evidence of his age satisfactory to the Board;
- (b) two testimonials, on forms provided for the purpose by the Board, of his good character; and
- (c) particulars of his experience in surveying mines referred to in Rule 3.

3. (1) Subject to any reduction determined by the Board, an applicant must satisfy the Board that he has had not less than four years' experience in surveying mines.

(2) The experience aforesaid must—

- (a) include experience in surveying and levelling (including chain reading) below ground for periods amounting in all to not less than two thousand hours, subject to any reduction determined by the Board; and
- (b) be experience—

(i) in mines [of coal, stratified ironstone, shale or fireclay in Great Britain]; or

(ii) partly in such mines during periods amounting in all to not less than one year and partly in mines (whether in [Great Britain] or elsewhere) with respect to which the Board are satisfied that they provided equivalent experience.

(3) Any reduction of experience as aforesaid shall be such reduction in respect of any qualification or experience (including performance of national service) acquired by the applicant as the Board may determine having regard to any directions given to them by the Minister.

4. An applicant who has complied with the provisions of Part II or Part III of these rules must qualify—

- (a) at a practical examination held by the Board on the subjects of—

- (i) surveying on the surface (including the use and adjustments of a theodolite) and levelling (including the adjustments of the level and flying and sectional levelling);
 - (ii) surveying below ground (including the use of a theodolite and level) and the correlation of surface and underground surveys; and
 - (iii) office work relating to surveying (including the preparation of a plan and section); and
- (b) at an oral examination held by the Board on the subjects of mining surveying and the mining legislation relating to surveyors and plans.

PART II

5. An applicant under this Part of these rules must qualify at a written examination held by the Board on the subjects specified in the first schedule to these rules.

PART III

6. An applicant under this Part of these rules must—either (1)

- (a) be the holder of and produce to the Board with his application any one of the certificates specified in the second schedule to these rules;
- (b) qualify at an intermediate written examination held by the Board on the subjects of mathematics, physics and chemistry, geology, surveying, elementary mining technology, and drawing; and
- (c) qualify after attaining the age of 21 years at a final written examination held by the Board on the subjects of geology and surveying:

Provided that if an applicant—

(i) was educated outside the United Kingdom and satisfies the Board that his standard of general education is equivalent to the standard required to be attained under paragraph (a), that paragraph shall not apply;

(ii) is the holder of an ordinary national certificate in mining granted in respect of subjects approved by the Board, paragraph (b) shall not apply;

(iii) is the holder of any degree or diploma specified in the first part of the third schedule to these rules, has completed a course of study in mining surveying approved by the Board at any institution specified in the second part of the said schedule and has passed an examination of that institution held in relation thereto, or is an associate member of the Institution of Mining Engineers having passed such examinations of the Institution as the Board require, paragraphs (a) and (b) shall not apply;

or (2) be the holder of a higher national certificate in mining surveying having attained such standard in qualifying therefor as the Board may require, or have passed the Joint Intermediate Examination of the Royal Institution of Chartered Surveyors and the Institute of Mining Surveyors in the mining surveying section thereof.

PART IV

7. The times and places at which examinations are to be held under these rules shall be published by the Board in the Ministry of Labour *Gazette* and in such other publications as the Board may from time to time think fit.

First Schedule (Rule 5)

Determination of magnetic declination.
Loose and fast needle surveying.
Calculation of areas and volumes.
Contour lines and levelling.
Traversing with the theodolite below ground and on the surface.
Triangulation.
Plans and sections of mines.
Ordnance Survey and geological maps.
Use, care and testing of instruments.
Making a survey of the workings of a mine and connecting such survey with a surface survey.
Making levellings.
Plotting surveys and levellings.

Second Schedule (Rule 6 (1) (a))

This schedule is the same as the first schedule to the Mining Examinations (Certificates of Competency) Rules, 1952 on page 300.

Third Schedule (Rule 6 (1) Proviso (iii))

Part I

This part of the schedule is the same as the second schedule to the Mining Examinations (Certificates of Competency) Rules, 1952, on page 302.

Part II

Name of institution providing course of study in mining surveying:

Glamorgan Technical College, Treforest.
Glasgow University.
Heriot-Watt College, Edinburgh.
Leeds University.
Royal School of Mines, London.
Royal Technical College, Glasgow.
Sheffield University.
Technical College of Monmouthshire, Crumlin.
University College of South Wales and Monmouthshire.
Wigan and District Mining and Technical College.

(b) SYLLABUS AND QUALIFYING STANDARDS FOR SURVEYORS' CERTIFICATES.

NOTES ISSUED BY THE MINING QUALIFICATIONS BOARD

(Note.—These notes are subject to amendment from time to time as occasion demands
Separate copies can be obtained by interested persons from the Secretary to the Board.)

WRITTEN EXAMINATION

1. Surveying, levelling and drawing: Determination of magnetic declination; loose and fast needle surveying; calculation of areas and volumes; contour lines and levelling; traversing with the theodolite below ground and on surface; triangulation; plans and sections of mines; Ordnance Survey and geological maps; the use, care and testing of instruments; making a survey of the workings of a mine and connecting such survey with a surface survey; making levellings; plotting surveys and levellings.

2. Applicants must satisfy the Examining Board that they are competent—

(1) to make an accurate survey of the workings of a mine and to connect such survey with a surface survey;

(2) to make accurate levellings; and

(3) to plot accurately surveys and levellings.

The maximum marks are 100.

Qualifying marks for entry to Oral and Practical Examinations

3. At least 60 out of 100 marks will qualify for entry to the oral and practical examination.

THE ORAL AND PRACTICAL EXAMINATION

4. This examination which takes place on the three successive days will comprise—

(1) surface tests (including use and adjustments of theodolite and sectional levelling);

(2) underground tests (including use of theodolite); and

(3) oral and office tests (including preparations of a plan).

5. Applicants are advised of the vital importance of adequate practice in the use of theodolite. Evidence of insufficient experience in the manipulation of surveying instruments militates against an applicant's prospects of passing the practical tests.

6. The use of Chambers Mathematical Tables, Bremiker's Tables of Common Logarithms, Shortrede's Tables of Logarithms, Sines and Tangents, and slide rules will be permitted at both the written and oral and practical examinations subject to such restrictions as may be determined by the Board or by the examiner presiding over the examinations.

7. The total marks in the oral and practical examination will be as follows:

Surface tests	30 marks
Underground tests	35 „
Office work and oral tests	35 „
<hr/>	
Total	100 marks

No applicant will qualify for a certificate unless he obtains at least half marks in each of the above three tests and at least 60 of the total marks.

QUALIFYING STANDARD AT COMBINED EXAMINATION

8. An applicant who obtains at least 65 marks in the written examination and also at least 50 in the oral and practical examination will, however, be eligible for re-examination at the next succeeding oral and practical examination on payment of a fee of £3.

Otherwise an applicant who qualifies in the written examination but fails to qualify in the subsequent oral and practical examination will not be required to pass a further written examination before he can be admitted to a further oral and practical examination, but must pay the full fee of £4 when he comes forward again.

(c) FEES FOR EXAMINATIONS AND COPIES OF CERTIFICATES

(i) For examination	.	.	.	.	.	.	.	£4
(ii) Copy of certificate	.	.	.	.	.	.	.	7s. 6d.

3. MECHANICS' AND ELECTRICIANS' CERTIFICATES

The qualifications to be held by 'mechanics of the mine' and 'electricians of the mine' are specified in Part IV of the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956.* The terms 'mechanics of the mine' and 'electricians of the mine' are defined in Nos. 2 (1) and 3 (1) of those Regulations.

(a) MINING QUALIFICATIONS (MECHANICS AND ELECTRICIANS) RULES, 1955†

(Note.—These Rules were made under Section 9 of the Coal Mines Act, 1911, as amended by the Coal Mines (Mining Qualifications Board) General Regulations, 1950, and are preserved by Section 191(1) (b) of the Mines and Quarries Act, 1954.)

Part I

General

1. In these rules:

'engineering' and 'plant' mean—

(a) in relation to an applicant for a mechanical engineer's certificate or a mechanic's certificate Class I or Class II, mechanical engineering and mechanical plant respectively;

(b) in relation to an applicant for an electrical engineer's certificate or an electrician's certificate Class I or Class II, electrical engineering and electrical plant respectively;

'the regulations' means the Coal and Other Mines (Mechanics and Electricians) Regulations, 1956.

2. Any reduction of practical experience for which provision is made in these rules shall be such reduction in respect of any qualification or experience acquired by the applicant as the Board may determine having regard to any directions given to them by the Minister.

*See page 121.

†As amended by the Mining Qualifications (Mechanics and Electricians) (Amendment) Rules, 1957.

3. The times and places at which examinations are to be held by the Board under these rules shall be published by the Board in the *Ministry of Labour Gazette* and in such other publications as the Board may from time to time think fit.

Part II

Mechanical Engineers' Certificates and Electrical Engineers' Certificates

4. An applicant for a mechanical engineer's certificate or electrical engineer's certificate under the Regulations must comply with the provisions of this part of these rules.

5. An applicant under this part of these rules must produce to the Board with his application, the following documents:

- (a) two testimonials, on forms provided for the purpose by the Board, of his good character;
- (b) particulars of his practical experience in engineering.

6. Subject to any reduction determined by the Board, an applicant under this part of these rules must satisfy the Board that he has had practical experience in engineering for not less than five years, being experience acquired—

- (a) during periods amounting in all to not less than two years, under training of a kind approved by the Board in one or more engineering workshops, and
- (b) during periods amounting in all to not less than two years, in the use, examination, testing and maintenance of plant and the supervision of such operations; and

including experience acquired—

- (i) during periods amounting in all to not less than eighteen months, either wholly at one or more mines [of coal, stratified ironstone, shale or fireclay in Great Britain], or partly at one or more such mines and partly at one or more [such] mines outside [Great Britain] . . . which provided equivalent experience, and

- (ii) during periods amounting in all to not less than two hundred working days, below ground in one or more such mines.

7. An applicant under this part of these rules must—

either (1) qualify at a written examination held by the Board on the subjects specified in the first or second part (as the case may require) and the seventh part of the first schedule to these rules;

or (2) (a) be the holder of—

- (i) a higher national certificate in engineering;
- (ii) a degree in engineering granted by any university in the United Kingdom;
- (iii) an honours certificate in engineering granted by the Association of Mining Electrical and Mechanical Engineers; or

- (iv) any other qualification in engineering which, in the opinion of the Board, has required the attainment of a standard not inferior to the standard required to have been attained by a holder of any qualification specified in the three last preceding heads of this sub-paragraph; and
 - (b) in any case in which the Board so require, satisfy them that in the course of attaining any qualification specified in sub-paragraph (a) of this paragraph or the qualifying standard at any examination approved by the Board he has undergone examination in writing on each of the subjects specified in the first or second part (as the case may require) of the said first schedule; and
 - (c)
 - (i) qualify at a written examination held by the Board on the subject of mining legislation; or
 - (ii) satisfy the Board that in the course of attaining any qualification specified in sub-paragraph (a) of this paragraph he has attained a standard in the subject of mining legislation not inferior to the standard required to be attained by an applicant who qualifies in that subject under the last preceding head of this sub-paragraph;
- or (3) in the case of any applicant born before the first day of January, nineteen hundred and twenty-six who has had special practical experience in engineering approved by the Board, satisfy the Board, who may for this purpose require him to present himself for an interview, that his standard of knowledge of each of the subjects specified in the first or second part (as the case may require) and the seventh part of the said first schedule is not inferior to the qualifying standard required to be attained by an applicant at a written examination held by the Board on those subjects for the purpose of paragraph (1) of this rule.

Part III

Mechanics' Certificates Class I and Electricians' Certificates Class I

8. An applicant for a mechanic's certificate Class I or electrician's certificate Class I under the Regulations must comply with the provisions of this part of these rules.

9. An applicant under this part of these rules must produce to the Board with his application, the following documents—

- (a) two testimonials, on forms provided for the purpose by the Board, of his good character;
- (b) particulars of his practical experience in engineering.

10. Subject to any reduction determined by the Board, an applicant under this Part of these rules must satisfy the Board that he has had practical experience in engineering for not less than five years, being experience of the kinds specified in rule six.

11. An applicant under this part of these rules must—

either (1) qualify at a written examination held by the Board on the subjects specified in the third or fourth part (as the case may require) and the seventh part of the first schedule to these rules;

or (2) (a) be the holder of—

- (i) a certificate in engineering specified in the first or second part (as the case may require) of the second schedule to these rules; or
 - (ii) (in the case of an applicant for a mechanic's certificate Class I) either of the certificates specified in Division A, and either of the certificates specified in Division B, of the third part of that schedule; or
 - (iii) (in the case of an applicant for an electrician's certificate Class I) either of the certificates specified in Division C, and either of the certificates specified in Division D, of the fourth part of that schedule; and
- (b) (i) qualify at a written examination held by the Board on the subject of mining legislation,* or
- (ii) satisfy the Board that in the course of attaining any one or more of the certificates specified in the second schedule to these rules he has attained a standard in the subject of mining legislation not inferior to the standard required to be attained by an applicant who qualifies in that subject under the last preceding head of this sub-paragraph;

or (3) (a) be the holder of any qualification in engineering which, in the opinion of the Board, has required the attainment of a standard not inferior to the standard required to have been attained by an applicant who complies with the provisions of sub-paragraph (a) of paragraph (2) of this rule; and

(b) in any case in which the Board so require, satisfy them that in the course of attaining any qualification specified in the last preceding sub-paragraph or the qualifying standard at any examination approved by the Board he has undergone examination in writing on each of the subjects specified in the third or fourth part (as the case may require) of the first schedule to these rules; and

- (c) (i) qualify at a written examination held by the Board on the subject of mining legislation; or
- (ii) satisfy the Board that in the course of attaining any qualification specified in sub-paragraph (a) of this paragraph he has attained a standard in the subject of mining legislation not inferior to the standard required to be attained by an applicant who qualifies in that subject under the last preceding head of this sub-paragraph;

*See, however, No. 3 of the supplementary notes, page 344.

- or (4) in the case of any applicant born before the first day of January, nineteen hundred and twenty-six who has had special practical experience in engineering approved by the Board, satisfy the Board, who may for this purpose require him to present himself for an interview, that his standard of knowledge of each of the subjects specified in the third or fourth part (as the case may require) and the seventh part of the said first schedule is not inferior to the qualifying standard required to be attained by an applicant at a written examination held by the Board on those subjects for the purpose of paragraph (1) of this rule.

Part IV

Mechanics' Certificates Class II and Electricians' Certificates Class II

12. An applicant for a mechanic's certificate Class II or electrician's certificate Class II under the Regulations, must comply with the provisions of this part of these rules.

13. An applicant under this part of these rules must produce to the Board with his application a document specifying particulars of this practical experience in engineering.

14. Subject to any reduction determined by the Board, an applicant under this part of these rules must satisfy the Board that he has had practical experience in engineering for not less than five years, being experience acquired—

- (a) during periods amounting in all to not less than two years, under training of a kind approved by the Board in one or more engineering workshops, and
- (b) during periods amounting in all to not less than two years, in the use, examination, testing and maintenance of plant; and

including experience of the kinds specified in sub-paragraphs (i) and (ii) of rule six.

15. An applicant under this part of these rules must—

either (1) qualify at a written examination held by the Board on the subjects specified in the fifth or sixth part (as the case may require) and the seventh part of the first schedule to these rules;

or (2) be the holder of—

- (i) (in the case of an applicant for a mechanic's certificate Class II) any one of the certificates specified in the first part of the third schedule to these rules;
- (ii) (in the case of an applicant for an electrician's certificate Class II) any one of the certificates specified in the second part of that schedule; or
- (iii) any other qualification in engineering which, in the opinion of the Board, has required the attainment of a standard not inferior to the standard required to have been attained by a holder of any one of the certificates specified in the first or second part (as the case may require) of that schedule;

- or (3) in the case of any applicant born before the first day of January, nineteen hundred and twenty-six who has had special practical experience in engineering approved by the Board, satisfy the Board, who may for this purpose require him to present himself for an interview, that his standard of knowledge of each of the subjects specified in the fifth or sixth part (as the case may require) and the seventh part of the said first schedule is not inferior to the qualifying standard required to be attained by an applicant at a written examination held by the Board on those subjects for the purpose of paragraph (1) of this rule.
- or *(4) in the case of any applicant—

- (i) who has served an apprenticeship or course of practical training in engineering approved by the Board, being an apprenticeship or course which commenced before the first day of January, nineteen hundred and fifty-four and which was completed not later than the thirty-first day of December, nineteen hundred and fifty-eight; and
- (ii) who does not hold, and has not had the experience required to be shown by, a certificate granted in pursuance of sub-paragraph (b) (i) of paragraph (2) or of sub-paragraph (b) of paragraph (3) (as the case may require) of regulation twelve of the regulations;

qualify, by any date (not later than the thirtieth day of June, nineteen hundred and fifty-nine) within the period of two years, or such longer period as the Board may for special reasons determine, immediately following the date of completion of the said apprenticeship or course, at an oral examination held by the Board on the subjects specified in the fifth or sixth part (as the case may require) and the seventh part of the first schedule to these rules.

FIRST SCHEDULE (Rules 7, 11 and 15)

Part I

Mechanical Engineer's Certificate

Applied mechanics and materials
Applied heat and hydraulics
Colliery mechanical engineering

Part II

Electrical Engineer's Certificate

Electrical technology
Colliery electrical engineering

Part III

Mechanic's Certificate Class I

Mechanics and applied heat
Workshop technology and practice
Colliery mechanical engineering

*As amended by the Mining Qualifications (Mechanics and Electricians) (Amendment) Rules, 1957.

Part IV

Electrician's Certificate Class I

Electrical technology
Colliery electrical testing and practice

Part V

Mechanic's Certificate Class II

Mechanical technology
Mechanical practice

Part VI

Electrician's Certificate Class II

Electrical technology
Electrical practice

Part VII

All Certificates

Mining legislation

SECOND SCHEDULE (Rule 11)

*Name of Institution by which
Certificate Granted*

Description of Certificate

Part I

Mechanic's Certificate Class I

Association of Mining Electrical and Mechanical Engineers	First Class Certificate (Mechanical)
City and Guilds of London Institute	Colliery Mechanic's Advanced Certificate

Part II

Electrician's Certificate Class I

Association of Mining Electrical and Mechanical Engineers	First Class Certificate (Electrical)
City and Guilds of London Institute	Colliery Electrician's Advanced Certificate

Part III

Mechanic's Certificate Class I

DIVISION A

Institution of Mechanical Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Mechanical Engineering
Institution of Mechanical Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Mechanical Engineering

DIVISION B

Institution of Mining Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Three subjects)
Institution of Mining Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Three subjects)

Part IV

Electrician's Certificate Class I

DIVISION C

Institution of Electrical Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Electrical Engineering
Institution of Electrical Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Electrical Engineering

DIVISION D

Institution of Mining Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Four subjects)
Institution of Mining Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Four subjects)

THIRD SCHEDULE (Rule 15)

*Name of Institution by which
Certificate granted*

Description of Certificate

Part I

Mechanic's Certificate Class II

Association of Mining Electrical and Mechanical Engineers	Second Class Certificate (Mechanical)
City and Guilds of London Institute	Colliery Mechanic's Certificate
East Midland Educational Union	General Certificate in Mining (Mechanical)
Institution of Mining Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Three subjects)
Institution of Mining Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Three subjects)
Northern Counties Technical Exami- nations Council	General Certificate in Mining (Mechanical)
Union of Educational Institutions	Coal Mining Certificate (Mechanical Section)
Union of Lancashire and Cheshire Institutes	Mining Industry General Certificate (Mechanical)

Welsh Joint Education Committee	Colliery Mechanic's Certificate
Yorkshire Council for Further Education	Colliery Mechanic's Certificate (Intermediate Grade)

Part II

Electrician's Certificate Class II

Association of Mining Electrical and Mechanical Engineers	Second Class Certificate (Electrical)
City and Guilds of London Institute	Colliery Electrician's Certificate
East Midland Educational Union	General Certificate in Mining (Electrical)
Institution of Mining Engineers and Ministry of Education (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Four subjects)
Institution of Mining Engineers and Scottish Education Department (jointly)	Ordinary National Certificate in Mining (granted in respect of Group Four subjects)
Northern Counties Technical Examinations Council	General Certificate in Mining (Electrical)
Union of Educational Institutions	Coal Mining Certificate (Electrical Section)
Union of Lancashire and Cheshire Institutes	Mining Industry General Certificate (Electrical)
Yorkshire Council for Further Education	Colliery Electrician's Certificate (Intermediate Grade)

(b) NOTES ON THE MECHANICS AND ELECTRICIANS RULES

A. PRACTICAL EXPERIENCE (Rule 6)

1. *Reduction of five-year period*

Under Rule 6, an applicant for a certificate is, in general, required to have had at least five years' appropriate practical engineering experience.

The Board may, however, reduce the period required in particular circumstances and in practice the following arrangements would normally apply:

The period of five years' practical experience will be reduced to three years and the periods of two years referred to in sub-paragraphs (a) and (b) will each be reduced to 18 months for applicants holding an engineering degree of a British University or a qualification (e.g., an overseas degree in engineering or certain diplomas) which the Board regard as equivalent. Completion of the National Coal Board's course of Directed Practical Training in mechanical or electrical engineering will be accepted in place of the normal five years' practical experience.

2. *Practical effect of Rule 6*

Thus the effect of Rule 6, in conjunction with the concessions referred to above, will be that generally speaking the periods of practical experience required will be as follows:

(a) Men who have trained as engineers within the mining industry, either—

(i) five years' practical experience including at least two years spent under training in suitable workshops and at least another two years in the practical operation, maintenance, testing, etc., of colliery plant; or

(ii) in the case of a holder of an acceptable engineering degree or equivalent qualification, three years' practical experience including at least 18 months spent under training in suitable engineering workshops and at least another 18 months in the practical operation, maintenance, testing, etc., of colliery plant; or

(iii) completion of the National Coal Board's course of Directed Practical Training in mechanical or electrical engineering.

(It is assumed that a man who has been trained at mines will have no difficulty in satisfying the requirement of at least 200 working days spent below ground—see Rule 6 (ii).)

(b) Men who have trained as engineers in industries other than mining, either—

(i) five years' practical experience including at least two years spent under training in suitable engineering workshops and at least another two years in the practical operation, maintenance, testing, etc., of plant; or

(ii) in the case of a holder of an acceptable engineering degree or diploma, etc., three years' practical experience including at least 18 months spent under training in suitable workshops and at least another 18 months in the practical operation, maintenance, testing, etc., of plant.

(iii) The experience to satisfy (i) and (ii) above may have been acquired in any suitable engineering employment, but the candidate must also satisfy the requirements of sub-paragraphs (1) and (ii) of Rule 6. This means that, apart from any relevant experience outside mining, he must spend at least 18 months at mines subject to the Act (or equivalent mines in other countries) including not less than 200 working days spent in work below ground.

3. *Workshop training*

The training in engineering workshops referred to in sub-paragraph (a) of Rule 6 must be of a character satisfactory to the Board, who reserve the right to reject workshop experience which they consider is not suitable, for example, because it is too limited in scope.

B. ACADEMIC QUALIFICATIONS (Rule 7 and Parts I, II and VII of the First Schedule)

4. *Exempting qualifications*

In general, the Board do not propose to hold an examination for Engineers Certificates other than in the subject of mining legislation. (Note 5 below deals with the position regarding the paper in mining legislation.)

The effect of the Rule and the related Schedules is that the holder of any one of the qualifications listed in sub-paragraphs (i) to (iv) of paragraph 2 (a) of Rule 7 will (subject to the following paragraph of this Note) be exempted from examination in all subjects except mining legislation, because the Board do not consider that there is any need to duplicate these existing examinations. The Board will, however, exercise any necessary checks, e.g., by scrutiny of examination papers and scripts, to ensure that the scope and standards which they consider to be necessary are being maintained.

Further, the Board reserve the right to require the holder of any of the exempting qualifications to satisfy them that he has passed examinations covering the scope of the Board's syllabuses referred to in Note 7 below, in particular that in his training and course of studies he has covered the application of mechanical or electrical engineering to mining machinery and plant. For example, a candidate from outside the mining industry with a Higher National Certificate in Engineering might on applying for a statutory Engineer's Certificate be required to obtain an endorsement to his Higher National Certificate in the subject of colliery mechanical or electrical engineering. However, a candidate who has obtained either (a) an Ordinary National Certificate in Mining in the appropriate groups before taking his Higher National Certificate in Engineering, or (b) an Association of Mining Electrical and Mechanical Engineers Honours Certificate, would *not* be required to do anything further to establish that he has reached the requisite standard in colliery engineering. The position of holders of degrees (or other qualifications under paragraph 2 (a) (iv) of the Rules) will be considered in the light of their individual applications.

Sub-paragraph (iv) of paragraph 2 (a) of Rule 7 is intended to provide for qualifications such as suitable degrees in engineering of overseas universities, which the Board consider to be at least equivalent in scope and standard to the particular qualifications specified in sub-paragraphs (i) to (iii).

5. Mining legislation

There is provision in paragraph (2) (c) of Rule 7 for the Board to accept a particular engineering qualification as providing exemption in mining legislation as well as in other subjects, as an alternative to examining a candidate in this subject. In practice, the Board will in general themselves examine candidates for an Engineer's Certificate in mining legislation, but they will be prepared to consider whether to accept any particular engineering qualification which itself includes a paper in mining legislation as providing exemption in this subject.

6. Special exemption for certain older candidates

The provision in paragraph (3) of Rule 7, which enables the Board to grant certificates to candidates who have not passed an appropriate examination, is intended for a strictly limited purpose. During the early years of the introduction of new statutory qualifications of this kind there are bound to be men in the industry who have proved by actual carrying out of the work over a considerable number of years that they are fully competent to undertake the duties laid down in the Regulations, but who have never taken one of the appropriate examinations now required by the Board. Many of these men will obtain Service Certificates under the Regulations, but some will not be eligible for a Service Certificate for one of a variety of reasons, e.g., because at the specified dates they were not acting as engineers or mechanics or electricians of the mine, possibly because

they were then employed at a higher level. The Board recognise that a candidate of this type may be of an age when he cannot reasonably be expected to take a written examination, and therefore the Board have the right to grant a certificate on the basis of their consideration of the man's record of his experience, supplemented by any interview which they consider to be necessary. It must be emphasised, however, that this method of qualification is only open to men of this type born before 1st January, 1926.

7. *Mining Qualifications Board syllabuses*

Details of the syllabuses associated with each of the subjects specified in Parts I, II and VII of the First Schedule are shown in Sections 1 and 4 of the appendix to these notes.

APPLICANTS FOR CLASS I CERTIFICATES

A. PRACTICAL EXPERIENCE (Rule 10)

8. *Operation of Rule 10*

Notes 1, 2 and 3 above (relating to Rule 6) apply also to the experience required by applicants for Mechanics' or Electricians' Certificates Class I under Rule 10.

B. ACADEMIC QUALIFICATIONS (Rule 11, Parts III, IV and VII of the First Schedule, and the Second Schedule)

9. *Exempting qualifications*

In general, the Board do not propose to hold an examination for Class I Certificates except in the subject of mining legislation. (Note 10 below deals with the position regarding the paper in mining legislation.)

The effect of Rule 11 and the related schedules is that holders of—

- (a) a First Class Certificate of the Association of Mining Electrical and Mechanical Engineers,
- (b) a Colliery Mechanic's or Electrician's Advanced Certificate of the City and Guilds of London Institute; or
- (c) a 'double' Ordinary National Certificate (that is, both an Ordinary National Certificate in Engineering and an Ordinary National Certificate in Mining in the appropriate groups)

will generally be required to take a Mining Qualifications Board paper in the subject of mining legislation only, because the Board do not consider that there is any need to duplicate these existing examinations. The Board will, however, exercise any necessary checks, e.g., by scrutiny of examination papers and scripts, to ensure that the scope and standards which they consider to be necessary are being maintained.

Alternatively, a candidate who does not qualify under (a), (b) or (c) above may qualify by offering some other qualification which the Board accepts as being of equivalent standard. In that event, however, the Board reserve the right to require the candidate to satisfy them that he has passed examinations covering the scope of the Board's syllabuses referred to in Note 12 below; in particular, a candidate under this part of the Rule may be required to satisfy the Board that in his training and course of studies he has covered the application of mechanical or electrical engineering to mining machinery and plant. Thus, in

practice, a candidate from outside the mining industry with an Ordinary National Certificate in Engineering (or a candidate with an overseas qualification in engineering of equivalent standard) might, on applying for a statutory Class I Certificate, be required to take a course in colliery engineering.

10. *Mining legislation*

There is provision in paragraphs (2) (b) and (3) (c) of Rule 11 for the Board to accept a particular engineering qualification as providing exemption in mining legislation as well as in other subjects, as an alternative to examining a candidate in this subject. In practice, the Board will in general themselves examine candidates for Class I Certificates in mining legislation, but they will be prepared to consider whether to accept any particular engineering qualification which itself includes a paper in mining legislation as providing exemption in this subject.

11. *Special exemption for certain older candidates*

Note 6 above (relating to Rule 7) applies equally to the provision in paragraph (4) of Rule 11.

12. *Mining Qualifications Board syllabuses*

Details of the syllabuses associated with each of the subjects specified in Parts III, IV and VII of the First Schedule are shown in Sections 2 and 5 of the appendix to these notes.

APPLICANTS FOR CLASS II CERTIFICATES

A. PRACTICAL EXPERIENCE (Rule 14)

13. *Operation of Rule 14*

Notes 1, 2 and 3 above (relating to Rule 6) apply also to the experience required by applicants for Mechanics' and Electricians' Certificates Class II under Rule 14.

14. *Apprenticeship training*

In addition to the circumstances specified in Note 1 above, the Board are also prepared to reduce the period of five years' practical experience for applicants for Class II Certificates if the applicant has completed a course of apprenticeship training lasting for less than five years, provided that it has been approved by the Board.

B. ACADEMIC QUALIFICATIONS (Rule 15 and Parts V, VI and VII of the First Schedule, and the Third Schedule)

15. *Exempting qualifications*

In practice the Board do not intend to hold an examination for Class II candidates at all, since the holder of, for example, one of the certificates listed in the Third Schedule will be automatically exempted from the whole of the Board's examination, because the Board do not consider that there is any need to duplicate these existing examinations. The Board will, however, exercise any necessary checks, e.g., by scrutiny of examination papers and scripts, to ensure that the scope and standards which they consider to be necessary are being maintained in these examinations, and in particular that proper weight is being given in them to the subject of mining legislation.

Rule 15 (4) provides an oral examination for certain ex-apprentices who fail to qualify for one of the certificates listed in the Third Schedule. The oral examination covers the syllabus for a Class II Certificate, but is directed to the practical applications rather than the theoretical aspects thereof.

16. *Special exemption for certain older candidates*

Note 6 above (relating to Rule 7) applies equally to the provision in paragraph (3) of Rule 15.

17. *Mining Qualifications Board syllabuses*

Details of the syllabuses associated with each of the subjects specified in Parts V, VI and VII of the First Schedule are shown in Sections 3 and 6 of the appendix to these notes.

C. APPENDIX TO NOTES ON MECHANICS AND ELECTRICIANS RULES SYLLABUSES

Section 1

Syllabus for Mechanical Engineer

1. APPLIED MECHANICS AND MATERIALS

Force diagrams for frames structures. The link polygon.

Stress and strain due to tensile, compressive and shear forces.

Relationship between elastic constants. Combined stresses.

Eccentric loads. Resilience. Sudden and fluctuating loads.

Fatigue in metals. Torsion in shafts. Stresses in thin walled and thick walled cylinders under internal and external pressure.

Beams. Bending moments and shearing force diagrams. Stresses due to bending and moment of resistance. Section moduli.

Empirical formulae for struts.

Velocity and acceleration, Moment of inertia and radius of gyration. Centrifugal force. Brakes and dynamometers.

Transmission of power by shafts, belts, chain, gears and fluid couplings.

Clutches.

The mechanical properties of ferrous and non-ferrous materials. Safety factors. Heat treatment—annealing, normalising and tempering. Structure of alloys. Equilibrium diagrams. The iron-carbon diagram. Structure of carbon steels. Special steels and other alloys used in mining. Effects of work on structure and mechanical properties. Testing of materials. Common machines and instruments for investigation of mechanical properties. Forms of specimen, testing procedure and expression of results. B.S.I. specifications for materials.

2. APPLIED HEAT AND HYDRAULICS

Laws of thermodynamics. Characteristic equation of a gas.

Total heat and internal energy. Specific heats of gases.

Isothermal and adiabatic changes. Entropy. Temperature-entropy and total heat-entropy diagram for steam. The Carnot and the Rankine cycle. Callendar's steam tables.

Combustion. Calorific value of fuels. Air-fuel ratio.

Furnaces and draught. Flue gas analysis. Boilers, feedwater heaters, air heaters and superheaters. Boiler trials and heat balances.

The steam engine. Compounding and condensing. Effects of super-heating. Steam jacketing.

The steam turbine. Flow through nozzles. Impulse and reaction turbines.

Compounding. Velocity diagrams. Blade thrust. Stage efficiency.

Condensing plant. Performances and testing of steam plant and heat balances.

Principles and general application of gas turbines.

The internal combustion engine. Ideal working of cycles and their representation. Air-standard efficiencies, actual and ideal.

Volumetric efficiencies. Testing of I.C. engines and heat balances.

Theory of air compression. Conditions for maximum efficiency.

Stage compression. Flow of air in pipes : metering.

Hydraulics. Total energy in a fluid. Bernoulli's theorem and its applications. Flow through nozzles. Stream line and turbulent flow. Measurement of flow by orifices, notches, weirs and venturi meters.

Friction in pipes. Theory of reciprocating and rotary pumps.

3. COLLIERY MECHANICAL ENGINEERING (PAPER A)

Shaft-sinking equipment, supports for water and compressed air pipes, cables, etc. Methods of guiding skips and cages.

The application and relative merits of parallel, clutched and bi-cylindroconical drum and Koepe winders with single and multiple ropes; winding diagrams. The advantages and disadvantages of skips and cages. Precautions which can be taken in the headframe, the sump and the engine to prevent over-winding or to minimise its effects. Types of brakes and the effect of the magnitude and direction of motion of unbalanced loads on rates of deceleration. The effect of the lay-out of the plant on the drum, sheave, rope, pulleys and headframe. Methods of loading and unloading cages and skips.

Types, construction, selection and installation of ropes. Cappings and attachments for winding and haulage ropes. Inspection, maintenance, recapping and lubrication.

The application and relative merits of transport by wire ropes, locomotives, conveyors and trackless vehicles. Types of rope haulages and locomotives. Tracks, rolling stock, safety devices and man-riding.

Types of coal cutting, loading and conveying machines, pneumatic picks, drilling machines, bits, rods and rigs. Pneumatic and mechanical stowing plant, Hydraulic props and chocks.

Application, lay-out and relative merits of reciprocating, turbine and other dumps. Their inspection and maintenance, including cleaning of pipes. Fire fighting systems and apparatus.

4. COLLIERY MECHANICAL ENGINEERING (PAPER B)

The application, lay-out and relative merits of single and multi-stage reciprocating compressors and turbo-compressors both above and below ground. Inspection and maintenance and other precautions essential to both safety and proper operation.

Types and characteristics of mine fans. Methods of reversing the ventilation. Auxiliary and booster fans.

Steam power; types of boilers and accessories; stoking: ash disposal: feed water treatment. Lay-out and equipment of coal preparation plant, refuse disposal plant and sidings. Locomotives.

The application and relative merits of the usual types of a.c. and d.c. motors for driving mechanical plant above and below ground.

Systems necessary for the efficient maintenance of mechanical plant for various sizes and types of collieries. Detailed maintenance schedules for major items of plant.

Spare machines and spare parts.

Workshop stores and any other facilities for the repair of plant.

Necessary staff.

Siting, lay-out and organisation of workshops at the mine. The inter-relationship of the mine workshops to any central workshops for several mines and to services provided by manufacturers of plant and apparatus.

Ordering and inspection of materials, spares and plant.

Essential records.

5. MINING LEGISLATION

The provisions of the Mines and Quarries Act, 1954 and Regulations relating to the above subjects and to the duties of the mechanics of the mine.

Section 2.

Syllabus for Mechanic Class I

1. MECHANICS AND APPLIED HEAT

Measurement of force and its effects. Triangle and parallelogram of forces. Resolution and composition of forces.

Moments and their applications. Centre of gravity.

Stress and strain. Young's modulus. Work power and energy.

Simple machines. Friction. Velocity ratio, mechanical advantage and mechanical efficiency. Transmission of power.

Laws of linear motion: velocity and acceleration. Force, mass and acceleration. Momentum and kinetic energy.

Angular velocity and acceleration and simple applications. Simple problems in hoisting and traction.

Strength of beams in relation to breadth, depth and span.

Behaviour of metals in tension, compression and shear. Simple treatment of torsion and bending. Testing of materials.

Factor of safety.

Hydraulics. Pressure on a submerged surface. Flow of water through pipes and orifices and over notches.

Applied heat. Heat and work. Mechanical equivalent of heat.

Relation between temperature, pressure and volume of a gas.

Properties of steam. Steam tables and their use. Dryness fraction.

Brief treatment of steam boilers, engines, turbines and condensing plant.

Principles of combustion. Calorific values.

Reciprocating steam engines. Mean effective pressure, indicated horse-power, brake horse-power and steam consumption.

Simple theory of air compression. Ventilating fans. Air flow in pipes and ducts.

Simple boiler and engine tests.

2. WORKSHOP TECHNOLOGY AND PRACTICE

Materials. The composition, physical properties and uses of plain carbon and alloy steels, brass, gun-metal, bronze, white metals and light alloys with special reference to their workability and applications.

Heat treatment. Simple consideration of the heat treatment of plain carbon steels. Normalising, annealing, tempering, and hardening. Effect of carbon content. Meaning of critical point and critical range. Colour method of judging temperature and its limitations. Use of a small tool furnace for single point tools.

Measurement and gauging. Elements of inter-changeability and limit gauging.

Limits and fits for plain and screwed work. B.S.I. standards. B.S. 1916, part 1 and 2.

Tolerances: limits: clearance, interference and transition fits. Types of limit gauges and adjustable gauges.

Cutting tools. Cutting action of lathe tools, milling cutters, drills, taps and dies. Tool shapes and correct cutting angles, rake and clearance for different materials and purposes.

Machine tools. A general knowledge of the constructional features, accessories and use of lathes, saws, plain milling machines, drilling, shaping, slotting, planing and grinding machines. Conditions for accuracy. Marking out for accurate work. Coolants and lubricants.

Soldering, brazing and welding by electric and flame processes. Flame cutting. Precautions against fire.

Exercises in inspection, maintenance and repair of mining machinery.

Workshop drawings and blue prints. Exercises in reading.

B.S.308. First angle and third angle projection.

Safety measures and statutory regulations affecting the engineering workshop.

3. COLLIERY MECHANICAL ENGINEERING

Shafts, methods of guiding skips and cages. Supports for water and compressed air pipes, cables, etc.

The inspection and maintenance of steam and electric winders. Precautions which can be taken in the headframe, the sump and the engine, to prevent over-winding or to minimise its effects. The testing of automatic contrivances and brakes. Plant for loading and unloading the cages and skips.

Types of ropes and their construction, selection and installation. Rope cappings and attachments for both winding and haulage. Inspection, maintenance, re-capping and lubrication.

Types of rope haulages, conveyors and locomotives. Arrangement of engine houses and garages and ancillary mechanical plant in haulage systems. Inspection and testing of manriding plant and of the brakes of haulages and locomotives.

General outline of types of face machinery and inspection and maintenance thereof.

General outline of inbye and main pumping plant and also of fire fighting systems and apparatus.

Generation and distribution of compressed air on the surface and underground. Precautions essential to safety.

Installation and maintenance of surface and underground fans.

Types of surface plant and the installation, inspection and maintenance thereof.

4. MINING LEGISLATION

Provisions of the Mines and Quarries Act, 1954 and Regulations for steam generating plant, shafts and winding apparatus, haulage apparatus, ventilating plant, all other machinery, gear and other appliances of the mine, and for surface lines and sidings, etc., and the duties of the mechanics of the mine.

Section 3

Syllabus for Mechanic Class II

1. MECHANICAL TECHNOLOGY

(*Note.—Emphasis should be laid throughout on the practical and experimental approach rather than on a mathematical treatment.*)

Force and its effects. Tension, compression and shear. Units of force.

Stress and strain. Young's modulus. Composition and resolution of forces.

The parallelogram and triangle of forces.

Moments and their practical applications.

Friction and brakes. Lubricants and lubrication. Work and power.

The inclined plane. Machines. Velocity ratio, mechanical advantage and efficiency. Transmission of power by belts, ropes and gears.

Brief account of velocity, acceleration, momentum and inertia and their application in simple haulage and winding problems.

An elementary treatment of steam and its properties. Dryness fraction. Superheat. Total heat in steam. Outline of construction and principles of operation of boilers, feed pumps, feed heater, steam engines and condensers.

The meaning of indicated horse-power and brake horse-power.

Steam consumption. Steam pipes and valves. Provision for expansion and drainage. Lagging.

Outline of construction and principle of operation of I.C. engines used at collieries.

Generation, transmission and use of compressed air in mines.

Syphons and pumps. Measuring water and quantities and pressure.

Flow through pipes. Pipe friction.

Properties and use of cast iron, wrought iron and steel. Other alloys used in mining.

Chains and lifting gear. Haulage and winding ropes, their construction and examination.

2. MECHANICAL PRACTICE AND REGULATIONS

Colliery workshops and their equipment. A general knowledge of the use of bench tools, lathes, drilling machines, grinders and millers. Consideration of speeds and feeds for machine tools. Marking-out for hand and machine work. Use of gauges, blue prints and drawings.

A general outline of soldering, brazing, forging, electric and forge-welding, flame-welding and cutting.

Heat treatment: normalising, annealing, hardening and tempering.

Operation, inspection and maintenance of: (a) Steam plant, screening and cleaning plant and other machinery on the surface; (b) Winding plant, shaft equipment, cages, decking plant, creepers and tipplers; (c) Haulage engines, locomotives, conveyors, coal-cutters and other mining machinery, including the fencing thereof; (d) Reciprocating and rotary pumps, water pipes for pumping, fire fighting and dust suppression, air compressors and auxiliary ventilators.

Systems of underground haulage and the necessary equipment and safety devices.

Rope capping and rope splicing.

Bearings: types and properties, arrangements, alignment and lubrication.

Special dangers due to firedamp, coal dust and frictional heating underground.

The appropriate provisions of the Mines and Quarries Act, 1954 and Regulations and the statutory duties of the mechanics of the mine should be included in the work of the syllabus.

Section 4

Syllabus for Electrical Engineer

1. ELECTRICAL TECHNOLOGY A

Direct current; general circuit theory. Magnetic properties of materials. The magnetic circuit.

Alternating current circuit principles. Simple treatment of resonance and harmonics. Inductance, capacitance, reactance, impedance, power and power factor related to single and 3-phase circuits. Principles and economics of power factor correction.

Measurement of power and power factor in a balance 3-phase circuit; use of instrument transformers. Simple network calculations in d.c. and a.c. circuits. Calculations of distribution and short circuit current ratings for switchgear. Voltage drop and power loss in transmission: power calculations in d.c. and 3-phase circuits.

Simple treatment of unbalance in 3-phase circuits.

Principles of common methods of rectification with suitable circuits and control; applications.

Characteristics and efficiency of filament and discharge types of lamps. Factors governing choice of type. Lighting calculations.

2. ELECTRICAL TECHNOLOGY B

Construction, insulation and installation of high-voltage cables and overhead lines.

The d.c. generator and the alternator: construction and excitation; voltage regulation; parallel running and load adjustment; synchronising 3-phase machines.

The single-phase transformer: principles and construction; cooling; installation; voltage regulation. The auto-transformer. The 3-phase transformer; connections and parallel operation.

Principles and construction of d.c. and a.c. motors used in colliery plant; starting and speed control; electric braking.

Motor generators, converters and rectifiers.

Characteristics, testing and efficiency of generators, transformers and motors.

Storage batteries: charging, maintenance and use.

Electrical welding equipment.

3. COLLIERY ELECTRICAL ENGINEERING

Armoured cables, flexible cables, joints and repairs.

Switchgear for colliery use.

General lay-out of colliery electrical plant; public supplies, power stations, sub-stations and their equipment, fire protection methods. The colliery earthing system. Earth leakage protection. Selective protection of transmission lines, alternators and transformers; metering equipment.

Torque characteristics of typical colliery motor loads; suitable motors and starting methods. Special problems of coal face machinery; remote control; sequence starting and conveyor belt protection.

Electric winding systems; winding load cycle and load equalising; safety devices. Haulage and shaft signalling systems; telephones.

Electric locomotives, battery and trolley types.

Firedamp: occurrence, properties and ignition; gas testing by flame lamp and special apparatus. Principles of flameproofing and intrinsic safety.

Lay-out and equipment for the maintenance of portable electric lamps. Mains lighting, surface and underground.

Systematic inspection and testing involving insulation, earth continuity, intrinsically-safe apparatus, flameproof equipment and exploders.

4. MINING LEGISLATION

The statutory provisions relating to:—

- (a) the use of electricity in mines and the duties of the electricians of the mine;
- (b) the installation, examination, testing and maintenance of electrical apparatus and cable at mines.

Section 5

Syllabus for Electrician Class I

1. ELECTRICAL TECHNOLOGY

The heating, chemical and magnetic effects of an electric current with appropriate examples: fuses, bells, relays and tripcoils. Primary and secondary cells. Electrolysis.

Conductors and insulators. The electric circuit. Calculations on resistance, divided circuits, resistivity and voltage drop in d.c. circuits. Electrical units and measurement of resistance.

Electromagnetic induction. Principles of the induction coil, transformer, and generator.

Types and principles of operation of d.c. generators.

Force on a conductor carrying current in a magnetic field. d.c. motors, their operation and control.

Alternating currents. Single phase circuit. Frequency, r.m.s. value. Simple treatments of inductance, capacitance and impedance. Phase difference, vector representation. Power and power factor. The 3-phase system. 4-wire and 3-wire systems. Star and delta connections. The 3-phase induction motor: principles and action; cage and wound rotor types. Transformers: single and 3-phase.

Simple power and energy calculations applicable to d.c. and a.c. circuits.

Brief description of methods of converting alternating current to direct current.

Measurement of candle power and illumination.

2. COLLIERY ELECTRICAL TESTING AND PRACTICE

Materials used in mining electrical plant. Construction of cables, including flexible cables; safe location and installation. Joints and cable couplers. Repair of cables. Insulation and continuity testing and simple fault location. Overload and earth leakage protection of circuits. Fuses and circuit breakers. Construction and use of ammeters, voltmeters and wattmeters on d.c. and a.c. circuits.

Connections, performances, control and maintenance of d.c. and a.c. generators and motors in common use; oil and airbreak control gear. Construction and use of circuit diagrams.

The 3-phase transformer: applications: housing.

Portable electric lamps. The storage battery and its maintenance. Equipment and procedure for charging. Mains lighting, surface and underground. Installation and testing of lighting circuits. Compressed air lamps.

Earthing of colliery electrical apparatus. The colliery earthing system. Earth leakage protection. Remote control systems.

Firedamp: occurrence, properties and ignition; gas testing by flame lamp and special apparatus. Principles of flameproofing and intrinsic safety.

Open sparking danger. Flameproof construction and maintenance. Intrinsically safe apparatus.

Signalling systems for shafts and roadways. Simple telephone systems.

Installation and testing of signalling and telephone systems. Testing of exploders.

The Electrician's log book and reports.

3. MINING LEGISLATION

The statutory provisions relating to:—

(a) the use of electricity and the duties of the electricians of the mine;

(b) the installation, examination, testing and maintenance of electrical apparatus and cable at mines.

Section 6

Syllabus for Electrician Class II

1. ELECTRICAL TECHNOLOGY

(Note.—*Emphasis should be laid throughout on the practical and experimental approach rather than on a mathematical treatment.*)

Heating, chemical and magnetic effects of an electric current.

Magnetic fields. Permanent and electro-magnets and their applications.

Principle of bells, relays, trips and telephones.

Simple electric circuits. Practical units—volt, ampere, watt, ampere-hour, kilowatt-hour. Horse-power. Ohm's law.

Conductors and insulators. Resistance and its measurement.

Voltage drop in cables.

Leclanche cells and dry batteries. Lead-acid and alkaline accumulators.

Elementary principles of the d.c. generator. Methods of excitation.

Voltage control.

The d.c. motor. Principle of operation. Motor types and their application.

Starters and speed control.

Comparison of a.c. and d.c. circuits. Outline of the operation of the alternator.

Explanation of common terms relating to a.c. circuits—inductance, capacitance, reactance, impedance, k.v.a., power and power factor. Elementary treatment of the 3-phase circuit. Star and delta connections.

Elementary principle of the induction motor. Squirrel cage and wound rotor motors and their control gear.

Principle of the transformer. Mining transformers.

Electrical instruments—ammeters, voltmeters, wattmeters and ohmmeters.

Shunts, multipliers and instrument transformers.

NOTE. In the treatment of the above subjects due regard should be paid to the application of the principles to the mining industry.

2. ELECTRICAL PRACTICE AND REGULATIONS

Tools, materials and instruments used by the electrician.

Jointing and insulating. Simple circuit diagrams.

Installation and testing of signalling and telephone apparatus for haulage and winding.

Care and maintenance of miners' electric lamps, gas detectors, shot-firing batteries and pneumatic lighting units. Installation and testing of lighting circuits. Lighting transformers.

General outline of distribution from surface to coal face.

Types of cables and their construction; installation in shafts and roads.

Cable jointing. Connection of armoured cables to fixed apparatus. Flexible and semi-flexible cables and their connectors.

Continuity, conductivity and insulation tests. Simple methods of fault location.

Common faults in motors, switches and control gear. Simple repair work, mechanical and electrical.

Installation and operation of a.c. and d.c. motors and their control gear.

Methods of reversal and speed control.

Installation and maintenance of switchgear and transformers.

Circuit protection against over-current, under-voltage, earth leakage.

Interlocks and remote control and examples of sequence starting and conveyor belt protection.

Open sparking. Detection of firedamp with a flame safety lamp. Flameproof enclosure and intrinsic safety.

Routine tests and examinations. Importance of isolating and earthing before examination. The electrician's log book and reports.

Statutory provisions governing the use of electricity in mines and the explanatory comments upon them in Ministry of Power Memorandum (M. & Q. 11).

(c) SUPPLEMENTARY NOTES ON MECHANICS AND ELECTRICIANS RULES

1. Application for an Engineer's or a Class I Certificate should be made to the Secretary, Mining Qualifications Board, Ministry of Power, Thames House South, Millbank, London, S.W.1.

2. Application for a Class II Certificate should be made to the Secretary to the appropriate Divisional Committee, Mining Qualifications Board.*

3. A holder of the First Class Certificate of the Association of Mining Mechanical and Electrical Engineers is not required to take the Mining Legislation examination for a Class I Certificate.

*See list of addresses on page 349.

(d) FEES FOR CERTIFICATES

(i) For a Mechanical Engineer's or an Electrical Engineer's Certificate	£4
(ii) For a Mechanic's Certificate (Class I) or an Electrician's Certificate (Class I)	£2
(iii) For a Mechanic's Certificate (Class II) or an Electrician's Certificate (Class II)	5s.

4. DEPUTIES' CERTIFICATES

(a) MINING EXAMINATIONS (DEPUTIES) RULES, 1952*

(Note.—These rules were made under Section 15 of the Coal Mines Act, 1911, as amended by the Coal Mines (Officials and Inspections) General Regulations, 1951, and are preserved by Section 191 (1) (b) of the Mines and Quarries Act, 1954. Persons desiring information about examinations for deputies' certificates should apply to any Local Education Authority or Technical College in a mining area and not to the Mining Qualifications Board. With certain exceptions, no person is qualified to be appointed as a deputy for the first time unless he (a) is the holder of a certificate of competency or a deputies' certificate, and (b) has within the previous five years obtained a gas testing and hearing certificate and a first-aid certificate.)

PART I

QUALIFICATIONS FOR DEPUTY'S CERTIFICATE.

1. An applicant for a deputy's certificate must either—

(a) have—

(i) reached the qualifying standard in one of the written examinations specified in Rule 4; and

(ii) reached the qualifying standard in one of the practical tests specified in Rule 5; and

(iii) subject to any reduction determined by the Board under Rule 3, had not less than four years' practical experience below ground in a mine [of coal, stratified ironstone, shale or fireclay], of which not less than 18 months was at the face of the workings; and

(iv) attained an age not less than 23 years; or

(b) have—

(i) reached the qualifying standard in one of the practical tests specified in Rule 5; and

(ii) subject to any reduction determined by the Board under Rule 3, had not less than five years' practical experience below ground in a mine [of coal, stratified ironstone, shale or fireclay], of which not less than two years was at the face of the workings; and

(iii) attained an age not less than 25 years.

*As amended by the Mining Examinations (Deputies) (Amendment) Rules, 1952.

APPLICATION FOR DEPUTY'S CERTIFICATE

2. Each application to the Board for a deputy's certificate must be accompanied by—

- (a) the applicant's birth certificate, or other evidence of his age satisfactory to the Board; and
- (b) particulars of his experience below ground in mines [of coal, stratified ironstone, shale or fireclay in Great Britain] (including the periods of his employment in each category of work), certified by or on behalf of the managers of the mines in which he was so employed; and
- (c) particulars of any experience below ground in a mine of any other class or description (including the periods of his employment and the categories of work) and
- (d) any certificate held by him, referred to in Rule 4 or 5.

REDUCTION OF PRACTICAL EXPERIENCE FOR APPLICANTS WITH SPECIAL QUALIFICATIONS

3. (1) The Board may in respect of the special qualifications or experience of any applicant for a deputy's certificate (including the performance of national service) reduce in his case the experience required under Rule 1 to periods not less than three years' practical experience below ground and one year at the face of the workings.

(2) An applicant, who desires the Board to reduce in his case the practical experience required, must attach to his application for a deputy's certificate particulars of any special qualifications or experience on which he relies.

WRITTEN EXAMINATIONS

4. (1) An applicant has reached the qualifying standard in a written examination covering the elementary principles of safe mining practice (including elementary mining science) and the statutory requirements relating to a deputy's duties, if he—

- (a) is the holder of a general or ordinary national certificate in mining; or
- (b) has passed an examination held by the Board under these rules.

(2) In the examination held by the Board, an applicant must satisfy the examiners that he has sufficient knowledge of the statutory requirements relating to a deputy's duties (including those relating to inspections and reports) and of the following matters covering the elementary principles of safe mining practice (including elementary mining science)—

- (i) the elementary principles of mine ventilation and lighting; distribution of air below ground;
- (ii) the elementary principles of electricity and mechanics, and their application to mining;
- (iii) elementary geology of coal and associated rocks;
- (iv) methods of working (particularly methods of working at the face);

- (v) support and control of roof and sides;
- (vi) explosions, fires and inundations;
- (vii) breaking ground; shot firing;
- (viii) shaft equipment; pumps; coal face machinery; use of compressed air;
- (ix) haulage.

Provided that if any applicant is the holder of a shot firer's certificate granted to him under the Mining Examinations (Shot Firers) Rules, 1952,* made by the Board, he shall not be required to be further examined about shot firing.

PRACTICAL TEST

5. (1) An applicant has reached the qualifying standard in a practical test of his ability to perform the statutory duties of a deputy if he—

- (a) is the holder of a certificate granted on or after 1st *January*, 1950, and approved by the Board for the purposes of these rules; or
- (b) has passed a practical test held by the Board under these rules.

(2) In the practical test held by the Board, an applicant must satisfy the examiners that he—

- (a) has sufficient knowledge of the following matters to enable him to perform the duties of a deputy—

- (i) methods of working and haulage;
- (ii) nature of the atmosphere and mine gases; ventilation;
- (iii) support of roof and sides; withdrawal of supports;
- (iv) maintenance of direction of roadways;
- (v) flame and electric safety lamps;
- (vi) safety in use of machinery;
- (vii) fires; fire-fighting and equipment;
- (viii) duties of a shot firer;
- (ix) rules and regulations applying to safety and health in mines;

- (b) can charge, prime and fire a shot; and

- (c) can make reports adequate for a deputy, orally and in writing, on inspections.

Provided that if any applicant is the holder of a shot firer's certificate granted to him under the Mining Examinations (Shot Firers) Rules, 1952,* made by the Board, he shall not be required to be further examined about shot firing.

PART II

GAS TESTING AND HEARING CERTIFICATES

6. (1) A certificate to be held by a deputy concerning his ability to test for gas and his hearing shall be one—

- (a) granted before 1st *June*, 1952, under paragraphs (b) or (c) of subsection (1) of Section 15 of the Coal Mines Act, 1911; or
- (b) granted by the Board, by one of the bodies specified in paragraph (2), or by any other body approved† by the Board for the purposes of this

* See page 348.

† No other body has been approved by the Board.

rule, certifying that he is able to make accurate tests for inflammable gas (so far as is practicable with a flame safety lamp), including the recognition of gas caps produced by atmospheres containing one and one quarter per cent. of inflammable gas, and is able in so far as concerns his hearing, to carry out the duties of a deputy efficiently.

(2) The bodies aforesaid are all universities and university colleges, and all such schools, colleges and institutions as are maintained or assisted by any local education authority.

FIRST-AID CERTIFICATE

7. The certificate of proficiency in first aid to be held by a deputy shall be one granted by a society or body approved by the Minister for the purposes of Regulation 5 (1) of the Coal and Other Mines (First Aid) Regulations, 1956, that he is proficient in first aid.

(b) FEES FOR CERTIFICATES

(i) Fee payable by an applicant taking the practical test (Rule 5 (1) (b))	25s.
(ii) Fee payable by an applicant holding an approved certificate (Rule 5 (1) (a))	5s.

5. SHOT FIRERS' CERTIFICATES

(a) MINING EXAMINATIONS (SHOT FIRERS) RULES, 1952*

An applicant for a shot firer's certificate must either—

- (a) be a holder of a certificate of qualification in shot firing approved by the Board for the purposes of these rules; or
- (b) satisfy the examiners at an oral and practical test held by the Board under these rules that he has sufficient knowledge of the following matters to enable him to perform the statutory duties of a shot firer—

- (i) inflammable gas and gas testing (including test with gas detection apparatus);
- (ii) dust suppression and fumes in relation to shot firing;
- (iii) use and handling of explosives and detonators;
- (iv) drilling and placing of, and breaks in, shot holes;
- (v) shots fired singly and in rounds; use of delay detonators; testing of circuits and treatment of mis-fires; determination of danger zones and safe shelter; examinations after shot firing;
- (vi) the keeping of records; and
- (vii) the law relating to shot firers.

(b) FEES FOR CERTIFICATES

(i) Fee payable by an applicant taking the oral and practical test (Rule 1 (b))	15s.
(ii) Fee payable by an applicant holding an approved certificate (Rule 1 (a))	5s.

*Preserved by Section 191 (1) (b) of the Mines and Quarries Act, 1954, page 93.

6. APPROVED CERTIFICATES OF QUALIFICATION FOR PURPOSES OF DEPUTIES' AND SHOT FIRERS' RULES*

The following is a list of approved certificates of qualification mentioned in Rule 5 (1) (a) of the Mining Examinations (Deputies) Rules, 1952—

Union of Lancashire and Cheshire Certificate for Colliery Deputies.
Institutes

Welsh Joint Education Committee Certificate for Mine Deputies.

The following is a list of approved certificates of qualification for the purposes of Rule 1 (a) of the Mining Examinations (Shot firers) Rules, 1952—

Union of Lancashire and Cheshire Certificate for Shotfirers.
Institutes.

Welsh Joint Education Committee Certificate for Shot-Firers.

Yorkshire Council for Further Education Shotfirers Certificate.

7. ADDRESSES OF SECRETARIES TO THE DIVISIONAL COMMITTEES

Scottish

Secretary to the Divisional Committee,
Mining Qualifications Board,
Scottish Division,
National Coal Board,
1 Eglinton Crescent,
Edinburgh, 12.

Durham

Secretary to the Divisional Committee,
Mining Qualifications Board,
Durham Division,
National Coal Board,
7 Side,
Newcastle-on-Tyne, 1.

Northern (N. & C.)

Secretary to the Divisional Committee,
Mining Qualifications Board,
Northern (N. & C.) Division,
National Coal Board,
Whitley Road,
Longbenton,
Newcastle-on-Tyne, 12.

*The list given in the first print of this Volume was incorrect.

North Eastern

Secretary to the Divisional Committee,
Mining Qualifications Board,
North Eastern Division,
National Coal Board,
The Lodge,
South Parade,
Doncaster.

North Western

Secretary to the Divisional Committee,
Mining Qualifications Board,
North Western Division,
National Coal Board,
40 Portland Street,
Manchester, 1.

East Midlands

Secretary to the Divisional Committee,
Mining Qualifications Board,
East Midlands Division,
National Coal Board,
Sherwood Lodge,
Arnold,
Nottingham.

West Midlands

Secretary to the Divisional Committee,
Mining Qualifications Board,
West Midlands Division,
National Coal Board,
Himley Hall,
nr. Dudley.

South Eastern

Secretary to the Divisional Committee,
Mining Qualifications Board,
South Eastern Division,
National Coal Board,
1-3 Waterloo Crescent,
Dover, Kent.

South Western

Secretary to the Divisional Committee,
Mining Qualifications Board,
South Western Division,
National Coal Board,
Institute of Engineers,
Park Place,
Cardiff.

APPENDIX 1

LIST OF PROVISIONS WHICH EXPRESSLY PROVIDE THAT A PERSON IS GUILTY OF AN OFFENCE (SECTION 152 (1))

<i>Section</i>	<i>Subject</i>	<i>Page</i>
65 (1)	Damaging, destroying or losing a safety-lamp or allowing it to be damaged, destroyed or lost	43
65 (2)	Tampering with a safety-lamp	43
66 (1) & (3)	Having a cigar or cigarette, a pipe or other contrivance for smoking, or a match or mechanical lighter in or when about to go into a safety-lamp mine or safety-lamp part of a mine	43
66 (6)	Refusal to allow searching	44
89	Contravention of certain rules or directions made or given by the owner or manager	55
90 (1)	Negligent or wilful acts or omissions likely to endanger the safety of the mine or the safety or health of persons thereat .	55
90 (2)	Removal or alteration of, or tampering with, anything provided for securing the safety or health of persons employed	55
116 (3)	Failure of actual employer, who is not the owner, to report an accident to the responsible person	58
145 (2)	Offences in relation to the powers and duties of Inspectors .	72
153	Inducing or procuring, or consenting to or conniving at, the commission of an offence under the Act	77
160	Liability of the parent for the employment of a young person in contravention of the Act	79
161 (1)	Forgery of certificates, or the making of false statements, etc. .	80
162	Removal of, injury to, or defacement of a notice or of a document in the accommodation provided in pursuance of Section 135	81

APPENDIX 2

REFERENCES UPON NOTICES SERVED BY INSPECTORS MATTERS TO WHICH PROVISIONS OF SECTION 170 OF THE ACT APPLY

<i>Section</i>	<i>Subject</i>	<i>Page</i>
27	Provision of additional roads affording means of egress from a working face	23
34	Elimination of a sudden change of direction, height, width or gradient in a length of road of a specified kind	25

<i>Section</i>	<i>Subject</i>	<i>Page</i>
35	Increase in height or width of a length of road of a specified kind	26
37	Amendment of transport rules	28
49	Provision of systematic support of roof and sides in certain lengths of road	34
54	Amendment of support rules	36
57	Improvement of ventilation	39
62	Use of permitted lights in a mine first opened before the commencement of the Act in which inflammable gas is known to have been present during the preceding five years .	41
68	Prohibition or restriction on use of electricity below ground .	45
78	Steps to deal with danger of an inrush of gas or of water or material that flows when wet	50
168	Objection to parts of mine being worked as separate mines .	82
<i>Coal and Other Mines (Managers and Officials)</i>		
<i>Regns.</i>		
10	Reduction in size of deputy's district	109
13	Alteration in position of meeting station of deputy's district .	111
<i>Coal and Other Mines (Mechanics and Electricians)</i>		
<i>Regns.</i>		
2, 3 & 4	Requirement that mechanic/electrician shall be in charge whenever a prime mover/electric motor is used for purpose not specified in the Regulations	117
7	Amendment to scheme for systematic examination and testing of apparatus	119
<i>Coal and Other Mines (Ventilation)</i>		
<i>Regns.</i>		
7	Change of point at which determinations of firedamp content are to be made	161
20	Provision and maintenance of an air-lock at a shaft or outlet connected by a drift to a surface fan before 31st July, 1947 .	165
<i>Coal Mines (Explosives)</i>		
<i>Regns.</i>		
2	Use of permitted explosives in dry and dusty part of mine .	187
15	Amendment of scheme of transit	191
38	Alteration in maximum number of shots to be fired by a shot-firer	198
<i>Coal Mines (Cardox and Hydrox)</i>		
<i>Regns.</i>		
9	Amendment of scheme of transit	218

APPENDIX 3

LIST OF M. & Q. FORMS RELATING TO MINES OF COAL

(Note.—If an existing form is still current, its number is given in brackets—see paragraph 11 of the Introduction to this volume.)

<i>Notices</i>	<i>M. & Q. Form No.</i>
Notification to District Inspector of appointment by mine owner (Section 15)	201
Notice of accident or dangerous occurrence (Sections 116 and 117)	206
Notice fixing periods of employment and intervals allowed for meals or rest for women and young persons (Section 128) .	208
Notice for giving (a) name of mine, name and address of owner, name of manager; (b) name and address of Inspector for the District; (c) situation of covered accommodation required by Section 135 (Section 136)	204
Notification of beginning and ending of certain mining operations (Section 139) or of change of ownership or name of a mine (Section 140)	212
Notice of result of proceedings (Section 165)	209
Notice of proposal to fix maximum exceeding 10 shots on any one shift for a deputy (Coal Mines (Explosives) Regulations, 1956), (Regn. 38 (2)).	242 (139)
Notice of intention to use electrical apparatus (Coal and Other Mines (Electricity) Regulations, 1956), (Regn. 2 (1))	263 (12)
<i>Report Books and Registers</i>	
(1) <i>Required by Mines and Quarries Act, 1954</i>	
Reports of withdrawal of persons employed in cases of danger (Section 79)	210
Reports of inspections on behalf of workmen (Section 123) .	216
Register of women and young persons employed (Section 131), including particulars of medical examinations and certificates of fitness of young persons for employment required by No. 5 of the Coal Mines (Medical Examinations) Regulations, 1956	218
(2) <i>Required by Coal Mines Regulation Act, 1908</i>	
Register of times at which men are lowered into and raised from the mine (Section 2 (1) as amended by the Mines and Quarries Act, 1954)	203 (35)
(3) <i>Required by Coal and Other Mines (Managers and Officials) Regulations, 1956</i>	
Deputy's pre-shift report (Regn. 24 (1))	231 (42)
Deputy's general report (Regn. 25)	232 (42A)
Reports of inspections of places outside deputies' districts (Regn. 29 (a) and (b))	234 (46A)
Reports of weekly inspections of airways and roads (Regn. 29 (c))	235 (46)

(4) <i>Required by Coal and Other Mines (Mechanics and Electricians) Regulations, 1956</i>	<i>M. & Q. Form No.</i>
Reports on mechanical plant (Regn. 11)	267 (157)
Reports on electrical plant (Regn. 11)	268 (10)
(5) <i>Required by Coal and Other Mines (Shafts, Outlets and Roads) Regulations, 1956</i>	
Reports of examinations of shafts, staple-pits and unwalkable outlets through which persons are carried (Regn. 14)	275 (45)
Reports of daily examinations of external parts of winding or haulage apparatus used for carrying persons through a shaft, staple-pit or unwalkable outlet (Regn. 15 (2))	276 (43)
Reports of examinations of winding ropes (Regn. 15 (3)).	277
Reports of tests of automatic contrivance to prevent overwinding (Regn. 15 (4))	278
Reports of thorough examinations of apparatus provided for attaching to the rope a cage etc. in a shaft, staple-pit or unwalkable outlet (Regn. 15 (5))	279
Record of hours of winding enginemen (Regn. 26)	280 (51)
Reports of examinations of lengths of rope cut off when re-capping (Regn. 55 (2)).	281
Reports of examinations of suspension gear for a cradle, platform etc. suspended in a sinking shaft or staple-pit (Regn. 59 (1))	282
(6) <i>Required by Coal and Other Mines (Ventilation) Regulations, 1956</i>	
Record of determinations of firedamp content and measurements of quantities of air (Regns. 8 (1) and 9 (5))	226 (37)
Record of number of revolutions of ventilating fan and pressure shown by water gauge (Regn. 19 (2))	227
Record of measurements and determinations of air delivered or exhausted by auxiliary fans (Regn. 25 (3))	228
(7) <i>Required by Coal and Other Mines (Safety-Lamps and Lighting) Regulations, 1956</i>	
Record of damage to safety-lamps or detectors (Regn. 2 (3))	214 (38)
Reports of tests of pneumatic electric lighting units (Regn. 19 (5))	215
(8) <i>Required by Coal Mines (Explosives) Regulations, 1956</i>	
Record of cleaning, overhaul and test of electric shot firing apparatus (Regn. 21 (e))	240 (154)
Daily record of shots fired and miss-fires (Regns. 31 and 65)	241 (52)
Record of maximum numbers of shots to be fired by shot firers (Regn. 39 (1))	243(139A)
(9) <i>Required by Coal Mines (Cardox and Hydrox) Regulations, 1956</i>	
Reports of examinations of shells (Regn. 6 (2))	229
Record of number of shells fired (Regn. 28)	230
(10) <i>Required by Coal and Other Mines (Fire and Rescue) Regulations, 1956</i>	
Reports of fires or suspected fires (Regn. 11 (3))	261 (75)

(11) <i>Required by Coal Mines (Precautions against Inflammable Dust) Regulations, 1956</i>	<i>M. & Q. Form No.</i>
Record of analyses of dust samples (Regn. 7 (4))	207 (41)
(12) <i>Required by Coal and Other Mines (Locomotives) Regulations, 1956</i>	
Record of inspections of locomotive roads (Regn. 10 (2) (b))	269 (144)
Record of determinations of firedamp content in locomotive roads (Regn. 15)	270 (145)
Record of daily external examinations of locomotives (Regn. 23 (1))	271 (142)
Record of weekly thorough examinations and tests of locomotives (Regn. 24)	272 (143)
Record of examinations and tests of locomotive brakes (Regn. 24)	273 (146)
Record of analyses of exhaust gases of diesel engines and air sampled at appointed places (Regn. 31 (4))	274 (147)
(13) <i>Required by Coal and Other Mines (Steam Boilers) Regulations, 1956</i>	
Reports of internal examinations of steam boilers (Regn. 9 (1) (a))	287 (40)
Reports of 14-monthly thorough examinations of steam boilers (Regn. 9 (1) (b))	288 (39)
Supplementary reports of examinations of steam boilers under working conditions (Regn. 9 (1) (b))	289 (39A)
(14) <i>Required by Coal and Other Mines (Horses) Regulations, 1956</i>	
Horse-keepers daily report on horses employed (Regn. 10 (2))	265 (50)
<i>Miscellaneous forms</i>	
(1) <i>Required by Coal and Other Mines (Managers and Officials) Regulations, 1956</i>	
Deputy's Gas testing and hearing certificate (Regn. 26 (2))	233 (153)
(2) <i>Required by Coal Mines (Training) Regulations, 1956</i>	
Certificate of training for employment below ground (Regn. 2 (b))	223 (132)
Certificate of training for employment at coal face (Regn. 5 (1) (c))	224 (133)
Form of nomination of instructor or supervising workman (Regn. 6 (3))	225 (134)
(3) <i>Required by Coal and Other Mines (First Aid) Regulations, 1956</i>	
First aid leaflet	264 (99)
(4) <i>Required by Coal Mines (Explosives) Regulations, 1956</i>	
Shot firer's gas testing certificate (Regn. 5)	290

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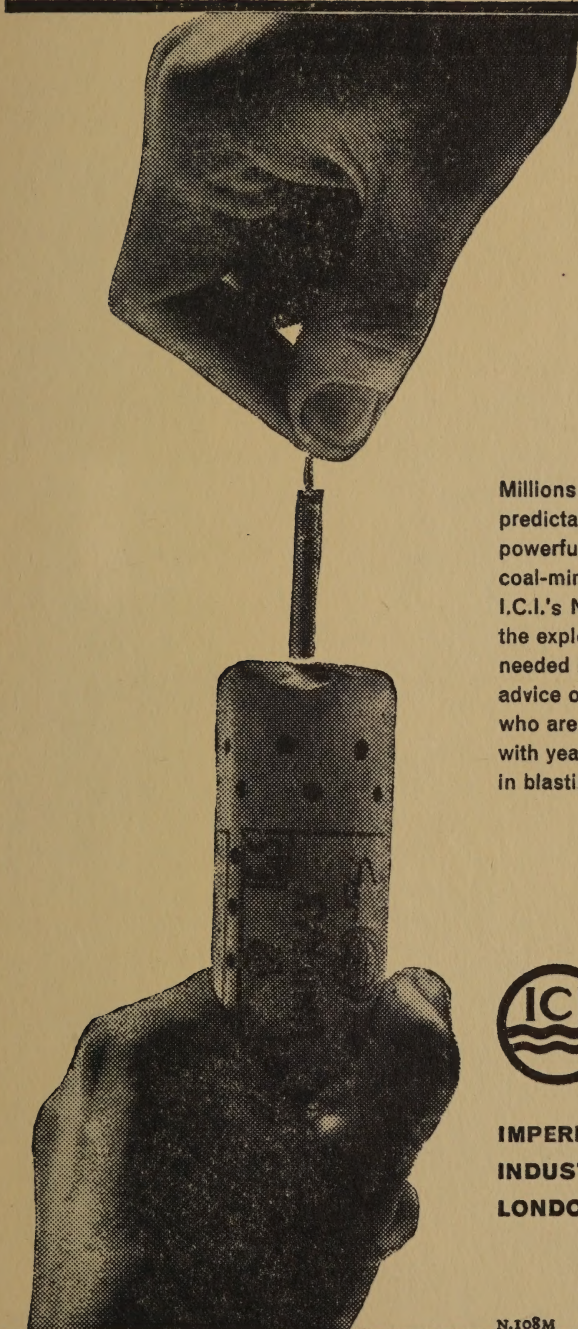
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